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The Old Hôtel de Ville, Paris.

IN the present number we publish a view, taken from an old photograph, of the former Hôtel de Ville of Paris; the memory of which, though it is not so many years since its destruction, seems already almost obliterated by the splendours of the new building, on the decoration of which the efforts of all the leading artists of France are to be concentrated. A record of the building which preceded it, interesting as it was both architecturally and historically, will, perhaps, be of value hereafter, and may be of interest now to those who remember it as an old friend; and to the representation of its architectural features, we propose to add a short sketch of its antecedents and its history.

The magistrates of Paris who, under the first kings of the Capets, used to assemble in a building near the Seine, called the "Maison de la Marchandise," established themselves afterwards in the "Parloir aux Bourgeois," which was at first situated near the Grand Châtelet, and afterwards at the extremity of the University, on the ground to-day occupied by the Rue Soufflot. A marble tablet affixed to a house in this street records the fact. In 1357 the officials of the City purchased, on the Place du Grève, the house "aux piliers," otherwise called the "Maison aux Dauphins," where the provosts of the various trades had their quarters up to 1532. As at this time the old house became dilapidated and unfit for further occupation, the provosts, who had become possessed of some of the adjoining property, bethought them of building a new Hôtel de Ville, of which Pierre le Viole, Seigneur d'Athis, who was councillor of the King and "Prévôt des Marchands," laid the first stone on the 15th day of July, 1533.

Most historians agree in attributing the architectural design of the building to Dominique of Cortona, called "Le Boccador," whose name has remained attached to the fine Renaissance façade which MM. Ballu and Deperthes have to a great extent reproduced in the new monument. M. Marius Vachon, however, in his interesting work on the "Hôtel de Ville," considers that he can prove, by authentic documents, that the edifice is entirely the work of Pierre Chamliges, a French architect, "maistre des œuvres de maçonnerye de la Ville de Paris et du Roy." He is the same architect who built the royal château of St. Germain-en-laye, the "cour du cheval blanc" at Fontainebleau, and the Château de la Muette (now destroyed). Dominique of Cortona, according to M. Vachon, was in reality only the architect of a portion of the ancien Maison de Ville, built under Francis I., before 1533, and which was transformed and absorbed in the buildings subsequently erected from the plans and designs of Pierre Chambiges.

We refer to this disputed point without undertaking to solve it, which, probably, it is impossible to do with certainty at the present time. It is sufficient to say here that the painted decoration of the Hôtel de Ville was entrusted to Charles, described as "painctre," and the sculpture to Thomas Choqueur, "tailleur d'imaiges," at the price of 4 livres per room for sculpture or for painting. In 1549 the two stages of the central portion were scarcely completed. They were judged to be "trop Gothique," and the design was modified, presented to Henri II., then at St. Germain, and approved by him.

During the latter half of the sixteenth century the disturbances and massacres in Paris obliged the magistrates to suspend the work. But in the reign of Henri IV., François Miron, Prévôt des Marchands, carried out the entrance steps and portico, the staircases, the equestrian figure of the King, and the other decorations of the façade, with a disinterested spirit which would hardly be found among Parisian Ædiles of the present day; for he advanced for the different works 900 livres out of his own funds, and gave up more than 2,200 livres of rights or commissions attached to his office. The statue of the King, destroyed during the first Revolution, passed for the *chef d'œuvre* of Biard the elder, a pupil of Michaelangelo. The bas-relief shown in our photograph, above the central door, was cast in bronze from a model by Lemot, and put up in 1836. Partially destroyed in the incendiarism of 1871, the fragments are now preserved in the Carnavalet Museum. The general works of the Hôtel de Ville, recommenced in 1605, were until 1628 directed by Marin de la Vallée, a Parisian architect. But from that time till the reign of Louis XV., almost the sole attention was given to the interior decoration, which was carried out in a very costly and luxuriant manner.

Towards the close of the seventeenth century, the old buildings having been for a long time inadequate for their requirements, the question was many times debated of pulling down and removing the Hôtel de Ville. But the Parisian people were so little pleased with this idea that the authorities had to confine themselves to a vote, in 1770, for the enlargement of the municipal palace. Want of funds interfered with the carrying out of this project, and things remained *in statu quo* until the time of the Consulate, at which the Prefecture of the Seine was installed in the Hôtel de Ville, to which were joined the buildings of the ancient church of St. Jean. From this time dates the construction of the immense "Salle de reunion publique," otherwise called the "Salle St. Jean."

Napoléon, who was already dreaming of schemes for a transformation of Paris, which (or something very like it) was to be accomplished nearly half-a-century later under the rule of his nephew, wished to build a new Hôtel de Ville on the Place de Grêve, with its principal façade towards the Seine. According to this project, the cost of which was estimated at 25 million francs, the Place de Grêve was to be put into communication with Notre Dame by a monumental bridge. The restored Monarchy rejected this ambitious plan, and gave itself no further concern about the Hôtel de Ville, which remained enclosed within a labyrinth of narrow, winding, and unhealthy lanes, of which the rue de l'Hôtel de Ville, rue Grenier sur l'eau, and rue Cloche, constitute to-day the only specimens remaining. It was not till 1836 that the enlargement of the old building was, in the reign of Louis Philippe, determined upon, and the work entrusted to MM. Godde and Lesueur. This operation, completed in 1846, had cost more than twelve millions. Lastly, in 1868, M. Max Vauthier was commissioned to rebuild, but on a larger scale, the campanile of the principal façade built in 1608. This was the new campanile which figures in our illustration.

The continuation of the Rue de Rivoli through the old quarters had for one of its results to open out the Hôtel de Ville, the Place adjoining which was raised, enlarged, reduced to symmetrical lines, and duly sanitated. The reign of Napoléon III. was the brilliant epoch of *fêtes* and balls, given under the administration of Baron Haussmann, to whom the Paris of the present day owes its predominant characteristics. In 1856, when Queen Victoria visited Paris, the inauguration

took place of the large avenue opened on the axis of the principal façade of the palace, and which now bears the name of the Avenue Victoria. Later, during the Exhibition of 1867, the greater number of the sovereigns of Europe were received with great pomp at the Hôtel de Ville, and the marvellous *fête* given there at that time to the Czar, the King of Prussia, the Emperor of Austria, and the Sultan Abdul-Aziz, were things not to be forgotten by those who witnessed them.

Then came the dark times of the war. At the time of the 31st October, 1870, and 22nd January, 1871, the Government of the National Defence, which had taken refuge in the Hôtel de Ville, had to support the siege of the battalions of Belleville under the direction of Flourens. Then followed the Commune, and during the sanguinary week in May, 1871, the insurrectionists flooded with petroleum the ancient cradle of municipal liberty, and set it on fire. The fire lasted eight days; in spite of the devoted efforts of the corps of firemen, recruited from the provinces and even from London, all was consumed. There remained no more of the monument except the burnt and blackened blocks of wall standing around the empty spaces, and the smoking ashes, among which could be picked up here and there fragments of bas-reliefs and columns, the *débris* of statues, remains of gold-work and jewelry, and the medals which are now collected in Carnavalet Museum. One cannot, even in this rapid and comprehensive sketch, pass over without mention the numerous things of artistic value which disappeared amid the flames lighted by the Commune. At the very centre of the edifice, in the Cour Louis XIV., which on fête-days was transformed by a glazed covering into a winter-garden, was a statue of Louis XIV. by Coysevox. This had, happily, partially escaped, and is now restored and preserved in the new museum of Auteuil. But the splendid staircase constructed by Baltard, and which was used only for the passage of sovereigns, has gone, and Ballu, for whatever reason, made no attempt to replace this in his new building. Among the other works which were destroyed, the following may be mentioned: In the Salle du Trone, the equestrian portrait of Napoléon III., by Horace Vernet; in the Salle du Conseil Municipal, four fine compositions by Yvon, reproducing scenes from the life of Clovis, Phillip Augustus, Francis I., and Napoléon III.; in the gallery of the Secretariat, eight views of Paris, painted by Lecomte, Paul Flandrin, Desgoffe, Bellel, and Hedouin. Fortunately, the eight landscapes by Hubert Robert, formerly in the Galerie de Marbre, were saved, and are at the present moment in the reception-rooms of the Prefect of the Seine.

In the Salon de l'Empereur was the celebrated ceiling by Ingres, representing the apotheosis of Napoléon, which has been rendered popular by engraving. In the same room was the portrait of Napoléon by Baron Gerald, also a splendid bust of Napoléon III. in *aqua marina* beryl, a *chef-d'œuvre* of artistic lapidary work, executed in 1867 by Froment Meurice. The Salon du Zodiaque was decorated by Léon Cogniet with allegorical compositions representing the four seasons. The wood-carvings below, attributed to Jean Goujon, reproduced the corresponding allegorical personages representing the signs of the Zodiac. The *salle à manger* was decorated with paintings by Jadin; the Salon des Cariatides was painted by Cabanel and Benonville. In the large Salle des Fêtes, Lehmann had executed twenty-eight grand compositions, symbolising in some sort the progress of the human mind from primitive times to those of modern civilisation. We may mention also the allegorical ceilings by Picot, Landelle, Müller, Hesse, and Riesener, not forgetting also the decoration of the Salon de la Paix, an admirable work by Eugène Delacroix, of which the museum at Auteuil careful preserves some original sketches. We may add that in the old principal façade there were forty-six niches, disposed in three groups, and decorated with statues of celebrated Parisians.

The old Hôtel de Ville contained also a very rich library, and many valuable archives and records, which have all disappeared. At the time of the fire, the library included 80,000 volumes, many thousands of manuscripts, and from 19,000 to 20,000 monographs of Paris, from the first proof of Gilles Corrozet, published in 1532, down to the last books on the subject published on the eve of the Commune insurrection. It possessed also the plan of Paris called the plan "de la Tapisserie," executed in 1540, the plan of Du Cerceau, and finally the celebrated missal of Juvénal des Ursins, given to the city by M. Firmin Didot, and which contained nearly 200 wonderfully executed miniatures, the destruction of which is an irreparable loss to French art and artistic history.

The municipal archives were not less interesting, and archæologists found there, among other treasures, the whole of the records and registers of the ancient Parisian trade guilds. The register of the Mercers' Guild was particularly remarkable. The morocco binding with wrought-iron decoration, representing the arms of the Corporation, was in itself a masterpiece. Many pages were decorated with miniatures representing episodes in the life of St. Louis, the patron of the Corporation; his departure for the crusades, his embarkation at Aigues Mortes, his landing in Egypt, and his death. The finish of execution, both in drawing and colouring, rendered these water-colours works of high artistic value.

Of so many works which had been accummulating for centuries there remains now, alas, nothing but the recollection. But since the mischief wrought by this short but violent civil war, a new building has slowly arisen on the ruins of the old Maison de Ville, and on its façade, adorned with decorations by the first artists of the modern school, there is still seen the proud and consolatory motto, attached to the device of the ship which symbolises Paris: "Fluctuat nec mergitur."

THE PSYCHOLOGICAL BASIS OF ART.*

FROM time to time the tendency of men to speculate upon the reason why they enjoy one thing in art and disapprove of another has shown itself outwardly in the production of treatises professing to furnish the key to these operations of the mind, and to explain why we like this and dislike that, though it is not very often that architects have thus appeared in the ranks of the psychologists. They have mostly been occupied with more practical problems. The author of the treatise before us may, at all events, make the same claim for leniency towards his work which Lot made in regard to Zoar: "Is it not a little one?" for his treatise is but in three chapters of moderate length, and may fairly be said to contain a good deal of thought within the narrow limits of those three chapters. The worst of it is that, like more ponderous treatises of the same kind, it seems to prove nothing, except that its author is a man of cultivated and thoughtful mind, who has some ideas on the subject, and is able to clothe them in well-chosen language.

Mr. Granger takes for his text the sentence from Lessing, the general truth of which few people will question,—viz., that "the object of the Fine Arts is to give pleasure" ("Der Endsweck der Künste ist Vergnügen"). With the conviction of this comes (to some persons, at least) the temptation to analyse that pleasure and see what it is made of,—a pursuit of which we will only say that it appears to us to be an effort to analyse and define what is in its nature indefinable, and the analysis and definition of which, if we succeeded in making it, would add nothing to our enjoyment of art, but rather take away from it. It is an effort to find out what you cannot find out, and the finding out of which, if you could achieve it, would destroy the very joy you are anxious to get better acquainted with. Mr. Granger's contention in his first chapter is that "just as play" (in the physical sense) "gives pleasure to the active side of mind, so the Fine Arts give pleasure to the receptive side of mind. . . . While, therefore, the pleasures of bodily exercise, of gymnastics, are attached to the muscular sense, the pleasures of Fine Art are attached to the senses by which are received impressions from the outer world." And the author proceeds to note that some impressions from the outer world, some sounds for instance, are pleasant in themselves, such as the singing of song-birds, and the notes of a musical instrument; while others, such as the cawing of rooks or the moaning of the wind, are sounds of which the pleasurable effect is only indirect; they suggest certain ideas on which the mind finds a pleasure in dwelling. This is true in itself, but we are no nearer, after all, the reason why the mind finds pleasure in dwelling on them, even if we wished to analyse it, which we, for our part, do not.

The subject begins to have somewhat more semblance of a definite end and meaning in some of the conclusions which the author draws from his views as to the manner in which our perceptions are affected by works of art. "Since the pleasure which it is the artist's aim to produce is the goal to which innumerable tendencies lead the mind, and since some tendencies are more easily than others followed out by consciousness, one rule of Fine Art must be to suggest the former in preference to the latter." . . . "The strength of a tendency in consciousness depends partly on the intensity of the original feelings on which it is based, partly in the absence of conflicting tendencies. Hence, there may be deduced the following condition of emotional pleasure. A train of feeling, in the first place, will be pleasant in proportion to the readiness with which its terms follow each other through consciousness." We should question that proposition very much. The ideas of the Whitechapel murderer and of a gibbet follow each other very readily through our consciousness, but they do not constitute a pleasurable train of feeling. But to proceed to the more direct application of the theory: "Works of art depend for much of their effect on the familiarity of the associations aroused by them. Since the strongest associations in the mind correspond with the most general associations among external phenomena, a general truth to nature" (not a special or particular realism of detail, that is to say) "will characterise all noble art." That is very well put. The highest art and the highest artistic expression takes note of the broad facts and associations and omits the little details. Fechter made Othello let himself in with a latch-key to murder Desdemona; the trivial incident at once weakens the tragedy. Wordsworth concludes a splendid sonnet on watching a ship at sea with the line,—

> "On went she, and due north her journey took."

If he had said—

> "And north by east, a little north, her course she shaped,"

he would have vulgarised the whole thing at once by directing attention away from the wide, vague idea of "sailing due north," to the paltry professional one of shaping a precise course by the points of the compass, a mere answer to the question, "How's her head?" So in painting: we are now in a realistic age (though a few chosen spirits protest against it), and we lower to the commonplace what might have been a poetic picture by forcing the attention on prosaic details. Apart from that, it seems to us that Mr. Granger's con-

* "Notes on the Psychological Basis of Fine Art." By Frank Stephen Granger, M.A., A.R.I.B.A. James Bell, Nottingham. 1887.

tention is only putting in another way what has been over and over again said about works of art, that to be impressive they require to possess in the first place character, that is, initial intensity of expression; and in the second place, unity of conception, that is, an absence of conflicting elements, or, as Mr. Granger puts it, a series of terms which "readily follow one another through consciousness." There is nothing new in the thought; there is something new in the way of putting it, which is in itself a gain, for we always are in a way to learn something by turning an old idea about and looking at it in a new light.

Chapter II., "On certain Terms which are used in the Criticism of Works of Art," contains some good points. The author returns, in other language, to the idea previously suggested, that the great and simple relations of art to nature are the basis of the highest art. "The simple relations of father and son, husband and wife, and so forth, will last as long as the race, and the noblest art can do no more than rend the veil which civilisation throws round the first conditions of happiness." .... Artificial things, "changing with every age and people, and without life, have but a passing interest compared with the permanence of natural forms. *Fashion is inartistic because it is mutable.*" The author deserves a vote of thanks for that last sentence; it is a truth admirably put. Hence the real greatness of the nude in art (provided it is fine work in itself); it is the eternal thing, the costumes are but toys, and costume itself rises in dignity as it drops realistic detail and rises to what may be called the normal idea of dress; something perfectly simple and ideal, unconnected with the fashions in detail of any special age or people.

A good deal of what the writer says about music and its artistic conditions is interesting and well expressed, but its consideration would lead us out of our field here. The author is right in entering a *caveat* against drawing out too far the resemblance between architecture and music, and makes a remark which might be taken to heart by some of the theorists who are anxious to prove that Greek temples were put together on a rule as rigid as that which governs the harmonic relation of sounds in music. He says this parallel between music and architecture, carried too far, "has been the origin of the absurd theories of proportion in architecture which have arisen since the Renaissance. The eye does not detect relation of magnitude with an accuracy at all like that of the ear in detecting relations of sound. Few eyes, if any, can see whether one line is precisely twice as long as another; yet a practised ear at once catches an imperfect octave, where the relation is of one to two." This we have repeatedly urged as against the "proportionist" people, and are glad to meet with the same argument from an independent quarter. Mr. Granger has, however, much less to say about architecture than one might have expected from an architect when dealing with philosophical reflections of this type. Some of the remarks on sculpture and painting show a very true spirit of criticism, especially those in regard to the treatment of the art of painting by Mr. G. F. Watts, and the spiritual and imaginative effect produced by his avoidance of mere mundane detail, as in his portraits of eminent men, which "gaze from their dark caskets on the wall like so many spirits."

The book is not essentially an architects' book in fact, or we should have followed it a little more in detail, and the positions laid down as to art would need a volume, or a good many volumes, to argue them out completely and judge them either right or wrong, and perhaps neither author nor critic would be nearer to a definite conclusion at the end of it all. But it is a pleasure to turn over a book which contains and suggests ideas in regard to the higher fields of artistic thought, and not the less so that the author is a member of the architectural profession, which has not on the whole made much contribution to psychology of any kind.

NOTES.

THE election of the London County Council on the 17th inst. resulted in the severe defeat of the Board of Works and Vestry candidates, with very few exceptions. Of twenty-eight members of the Metropolitan Board of Works who sought election on the County Council, only seven were returned, and the greater number of these were new members of the Board, and therefore not blameworthy in any way for the recent scandals. No doubt some good and eligible men, with great experience, were sacrificed through the revulsion of feeling against the Board and all its works. But many capable men have been elected, though only a few of them are in any way eminent. Amongst these must be mentioned Sir John Lubbock and Lord Rosebery, who were elected at the top of the poll in the City Division. Lord Rosebery is freely spoken of as the probable Chairman of the new body. Mr. R. W. Edis, the well-known architect, was a successful candidate in the South St. Pancras Division. Mr. James Beal and Mr. Firth, who have for so many years fought for municipal reform in London, are very fittingly among the successful candidates. But a few exceedingly able men were defeated at the polls. Amongst these we may mention Mr. Archibald Dobbs, who with so much public spirit and indomitable perseverance some years ago fought, and won a victory over, the powerful vested interests of the London water companies; and Sir Thomas Farrer, whose administrative experience would be of great value to the new body, which has no light task before it. These two gentlemen should certainly be among the nineteen Aldermen who are to be "co-opted" at the meeting of the Provisional Council on Thursday next. The result of the elections did not add to the cheerfulness of the meeting of the Board of Works on the 18th inst., when the estimates for the first quarter of this year were propounded. Two members of the Board resigned their seats in dudgeon at their defeat as County Council candidates, and the ratepayers were given to understand that, if the Coal and Wine Dues be abolished (to which, as we understand, at least 70 of the 118 elected Councillors are pledged), the Metropolitan rates will be increased by about 2½d. in the pound. But, on the other hand, coal should be at least 1s. a ton cheaper.

A CASE was decided in the Court of Queen's Bench last week, in which the rights of railway companies as "warehousemen" was raised. The action was originally brought by a Mr. Ivens, against the Great Western Railway,—who had sold three oak-trees of his, which had been on their wharf for about two years, to pay for the wharfage rent incurred (41*l.* 17s.). The case was tried before a judge and special jury, and decided in the plaintiff's favour; against which decision the railway company appealed. The usual advice had been issued to the plaintiff to the effect that the timber was held to his order, subject to the company's ordinary wharfage and demurrage charges, but he called witnesses to prove that such charges had not been made against other persons in the same trade in the same district; and it was held that the company was not entitled to exact a charge that was not uniformly made. It is rather singular that the judge at the first trial was Mr. Justice Wills, since appointed Railway Commissioner, and that the verdict then given has now been reversed. Mr. Justice Denman, in giving judgment last week, held that the plaintiff was bound by the terms fully set out on the advice-note, and that, although it was proved that the charges were sometimes waived, this was not a question for the court to consider. It certainly seems hard that in two years the timber should be swallowed up by wharfage expenses, but it would be no less hard for railway companies to be compelled to have their premises blocked up with their customers' goods for an indefinite period without compensation. As this was made a County Court matter, the last decision is doubtless correct,—although it appears clear that the company have prejudiced the plaintiff in giving his competitors advantages which they have denied to him, and it seems probable that had the action taken another form, an injunction might have been obtained restraining them from so doing. The advice-notes always point out that the railway companies hold goods for instructions, "not as common carriers, but as warehousemen." But they are always under an obligation to refrain from giving any of their customers undue preference *as railway companies*,—that is, we take it, in either capacity. How far a railway company may forego such claims without laying themselves open is a very wide question. The evidence in this case, however, goes to show that they do sometimes "make fish of one and fowl of another," and that if goods are left on their hands too long they are in danger of being "annexed."

A LETTER from "Ouida" in the *Times* of Saturday last recounts,—with indignation which is natural and virtuous, if all the circumstances are as she narrates,—a project which is on foot for rebuilding a great portion of old Florence, involving the destruction of a great many old buildings, not of the first fame certainly, but of great historical interest. According to "Ouida" the proposed changes would involve the practical destruction of mediæval Florence, and the change is set on foot "because a few householders are greedy to sell their ground;" but further on she states that the scheme is defended by "the parrot-chatter of hygiene,"—a sentence which possibly lets out a little more of one side of the truth than "Ouida" intended. No one would grieve more than we should over the wiping-out of streets along which the feet of Dante had trod, and which are connected with a past of such exceptional interest; but it is, unfortunately, quite impossible to accept the statement of the case on the bare assertion of "Ouida," who is a witness quite incapable of seeing both sides of such a question. It may be, as she asserts, that sanitary improvement is a mere pretext; but we cannot take her word for that, sanitation being a subject about which "Ouida," we suspect, knows and cares equally little. We have set on foot an inquiry on the spot as to the real state of the case on the practical side. We hope, in the meantime, that "Ouida's" statements as to the sweeping character of the measures contemplated by the Florentine authorities are exaggerated. If it be true that a large portion of the ancient part of the city is in such a state that sanitary reasons render its rebuilding a matter of serious importance, there is no doubt that, unless Florence is to be abandoned as a modern city, and left as a mere show, the sanitary considerations ought to take the precedence. As we said in the case of Venice, deeply as we may regret the loss of ancient appearance and ancient associations, we have no right to demand that a city which has a modern life of its own to provide for should forego practical improvements in order to preserve the city as a spectacle to visitors from other countries. One argument adduced by "Ouida" is that the insanitariness is in the present inhabitants, and not in the buildings. If so, there is no need to destroy the buildings; turn out the dirty inhabitants, and put them under more rigidly-enforced sanitary regulations. By all means let no destruction of ancient buildings be undertaken rashly and without real practical necessity. But let those who would take a part in preventing it first ascertain the real facts on both sides of the question, and not act merely in pursuance of the writings of a somewhat hysterical novelist.

THE Vicar of Fairford has appealed to the public through the *Times* for subscriptions to keep the famous ancient windows in his church in repair. According to the report of Mr. Westlake, who has been called in to examine the windows, unless they are re-

leaded, or a majority of them, a great deal of the glass will be lost, as the old lead is giving way and bulging. This is a serious matter, and ought to be attended to immediately. From the tone of the Vicar's letter, as well as from the fact that so sound and competent an adviser as Mr. Westlake has been consulted, subscribers to this object may feel quite assured, we should imagine, that their money would not be misused in any pretence of "restoring" missing or damaged portions, and thus impairing the authenticity of the glass. Mr. Westlake, we are convinced, will take care of that; and the preservation of the windows against further decay and dilapidation ought not to be delayed. But we recollect commenting on a similar appeal from the Rev. A. S. Loxley, the then vicar of Fairford, more than a year ago. It would be well, therefore, if the present vicar were to give some account of the amount which was obtained by his predecessor, and the way in which it was spent. Mr. Carbonell makes no mention of the previous appeal or the previous survey, and while we fully admit the claims which the Fairford windows have on the country at large, it must also be borne in mind that this local guardian is also, in effect, a trustee for those who have subscribed already, or may hereafter give something towards the preservation of these windows.

THE small volume of "Rambling Sketches In and Around Peterborough,"* by Mr. Arnold B. Mitchell, contains six quarto pages of small sketches, reproduced from pencil drawings, which, in style and artistic feeling, are little gems of their kind, indicating accurate perception of architectural detail, with a charming touch and style. They look slight, but they have been carefully studied. Among the best are a corner of the Lady Chapel, Peterborough (Plate I.); the old Rectory at Tickencote (Plate V.), very slight, but giving the poetry of the simple old house; and odds and ends from Peterborough, on Plate II., are very interesting. When we said "accurate *perception* of architectural detail" we used the word advisedly, because in some of the sketches, though there is accurate perception of the detail, there is not quite enough indication of it, even for a sketch; for instance, the sketch of the west front of Peterborough on Plate I. would hardly convey to anyone who did not know it the fact that the piers are vertically lined out by a series of shafts; they are left merely white space, for the sake of a telling balance of light and shadow. This kind of thing has been brought into fashion by the new American school of draughtsmen and book illustrators; it is brilliant and telling, but it may be doubted whether it is quite the right way to make an architectural sketch brilliant, to leave out a great deal that is there—leave it with hardly even an indication. However, the little book is a very charming one, and will please all lovers of old architecture. The accompanying cut is reproduced from the original sketch for one of the bits in the book, the Triangular Bridge at Croyland, but it is reproduced here a good deal larger than the scale chosen in the book, and perhaps comes out better on the small scale.

* Published for the author by C. F. Kell.

THE *Quarterly Statement* of the Palestine Exploration Fund mentions, among its matters of archæological interest, one of modern interest, viz., the progress that is being made in improving the roads in Palestine. The existing road from Jaffa to Jerusalem has been much improved, and the work is still in progress. In one place the road is to be widened, by breaking away the rocks, and building parapet walls on the outer edge where necessary. "In the Plain country several improvements have been made, but unhappily the steep ascent at Kubab is still remaining and not improved. One of the decaying watch-towers was removed and put nearer the road." The road from Jerusalem to Hebron, we read, is finished, "so that carriages are now going there." This sounds practical, but prosaic. Perhaps there might be room in Palestine for a "Society for the Protection of Ancient Roads."

DR. TREU'S paper on the marbles of the west pediment of the Temple of Zeus, at Olympia, will naturally excite great interest in a wide circle of readers. It has so far been almost universally held that, dispute as we may over the arrangement of the east pediment, the west was secure. Dr. Treu's own original disposition of the figures, or rather groups, was at once accepted by the archæological world, and was forthwith reproduced in dozens of books and cast museums. Dr. Treu himself now stands forward as champion of certain sweeping changes, and we cannot but admire his straightforward courage in avowing his own time-honoured mistake. The new arrangement does not fit in so well as the old one with the words of Pausanias (v. 10, 8), and we are not surprised to hear that Dr. Treu, and many another archæologist, would still have hesitated but for the final impulse given by a conversation with Dr. Dörpfeld (wenn nicht ein Gespräch mit Dörpfeld hierzu den letzen Anstoss Gegeben hätte). Dr. Dörpfeld's genius is as strongly solvent for error as it is constructive for truth; nor with a mind so swift does conviction tarry long. If Pausanias does not accord with facts, Pausanias is promptly, to use Dr. Dörpfeld's own lively image, "cashiered" (cassirt). This master among architects is no specialist in sculpture, but his *parerga* would make the name of a lesser man. To be understood, the argument, a long and complex one, must be read in connexion with the accompanying plates ("Jahrbuch des Instituts," 1888, Taf. 5, 6 with text), and could not well be even summarised without them. In addition to the main argument, Dr. Treu gives some very important remarks on the cause of the difference of material (parian and pentelic marble) in the statues of the west pediment. We may hope that the authorities of the South Kensington Museum will re-arrange these reduced casts of the sculptures, and, if they do not like to take so marked a step, will supplement the existing arrangement by a second one.

THE same number of the "Jahrbuch" contains a paper by Dr. Michaeli's on the disputed relief of the suppliant Demosthenes (Demosthenes Epibomios), which now stands in the library of Trinity College, Dublin. Lovers of Demosthenes and archæologists alike have for the most part been haunted with an uncomfortable feeling that the relief as figured and described in old books was "too good to be true." But as the original was missing, no satisfactory decision could be arrived at. When it was rediscovered and photographed there was much to strengthen the impression. Conviction as to style is difficult to convey, but any one can be made to understand that Δημωσθενης is a suspicous form, and only, Dr. Michaelis assures us, to be paralleled by the undoubtedly false Κλεωμενης of the Medicean Venus inscription. That the whole character of the letters is "uneasy" (ängstlich), wants the specialist's eye to appreciate that the arrangement of the himation is contrary to antique custom, is easily seen. The college authorities may confidently dethrone their relief from its place of honour,—or, better still, add a word of caution, and keep it aloft as a warning.

EIGHT frescoes have recently been fixed upon the walls of the National Gallery at Berlin, surrounded by a border of architectural character from the designs of Herr H. Gärtner. The history of these frescoes is interesting from a technical point of view. They were originally painted on the walls of the Casa Bartholdy by the German painters Cornelius, Veit, Overbeck, and Schadow; they were then acquired by the Prussian Government for 48,500 lire (about 2,000*l.*), and a further sum of 13,000 lire was spent in carefully removing them from the walls and transporting them to their new and permanent home.

THE deaths of the Emperors William and Frederick have produced, and are still producing, a large crop of monuments for cities, great and small, throughout the German Empire. Among the artists whose powers have been called out with this object, none seems in greater request than Reinhold Begas, who was already well known before, but who now is inundated with orders of all sorts and sizes. The most important work at present in hand, the general design for which is now complete, is the sarcophagus of the Emperor Frederick at Potsdam; upon the monument, with Prussian eagles at the four corners, lies the full-size figure of the deceased, clad in the handsome uniform of the Cuirassiers of the Guard, helmet in arm, the laurel-wreath of Wörth on the breast, the figure reposing upon an ermine-lined military cloak, which partly covers the feet. The sides of the sarcophagus have scenes from his life and sufferings in high relief.

THE Town Council of Edinburgh appear to have a very inadequate idea of the labour, expense, and ability required in the production of a worthy example of the sculptor's art. They have offered premiums of 20*l.*, 15*l.*, 10*l.*, and 5*l.*, for the second, third, fourth, and fifth designs in merit of a monumental group, to contain two statues in the best monumental bronze of not less than 14 ft. high, on a suitable basement, which, if in the form of a pedestal, must be of Aberdeen granite 15 ft. high; the cost of the completed work not to exceed 2,700*l.* This movement had its origin in a bequest by Captain Hugh Reid of 1,000*l.* to the city, which was to accumulate for twenty-five years, and the proceeds applied towards the erection of a monument to Bruce and Wallace—"say an ornamental

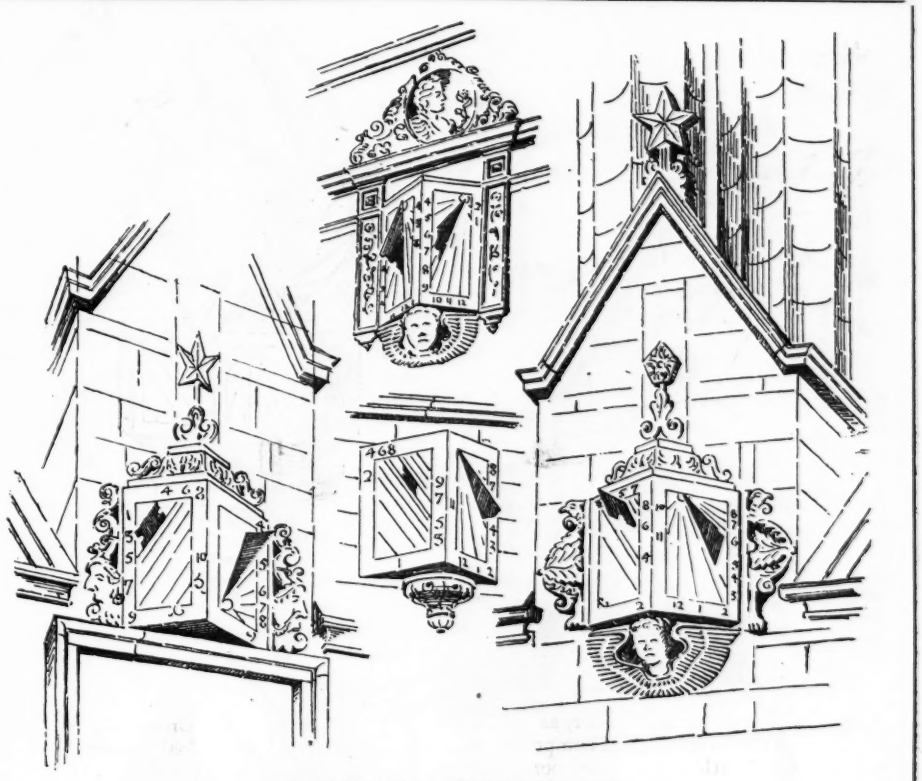
piece of water in the North Loch, with a fountain in the centre, and colossal statues of bronze of each hero as if in conference." The site selected for the proposed monument is the terrace of Prince's-street Gardens, to the west of the Scott monument. This is the second attempt made by the Edinburgh Municipal Authorities to get a design for the Bruce and Wallace monument at a cheap rate, and it is, as was to be expected, no more successful than the first. Only three sculptors have responded to the call, and none of the designs which have been exhibited are at all what should be. Double the sum proposed to be expended would not be too much for a work of the nature required, and the position it is to occupy. If the thing is to be done let it be done thoroughly; the monument will have a peculiar significance, and if of a paltry description will be apt to be sneered at by those who make light of Scottish nationality, which is at present being brought to the fore. Let Professor Blackie look to it.

THE Church of SS. Anne and Agnes, with St. John Zachary, within Aldersgate, has just been extensively repaired, at a cost of some 2,000*l.*, under the superintendence of Mr. Ewan Christian. The alterations comprise the laying of a new parquet floor, the removal of the gallery, and the repair, by Messrs. Lewis & Co., Brixton, of the organ, its case being retained. This church, originally dedicated to the mother of the Virgin, and long known as St. Anne-in-the-Willows, is mentioned as early as the year 1400; it was burnt accidentally in 1548, restored in 1624, and after the Fire was rebuilt of red brick, in 1680, by Wren, at an expense of 2,448*l.* The interior was repaired and renovated about fifty years ago: its dimensions, as given by the late George Godwin in his "Churches of London," are "53 ft. every way, and 35 ft. high. The height of the tower and turret is 84 ft." With this parish was united after the Fire that of St. John Zachary in Maiden, *olim* Engine, Lane, whereof the church, cited in Diceto's survey, was founded by Sir Nicholas Twyford. In the "New Remarks of London," as collected by the Company of Parish Clerks, 1732, it is stated that Twyford's "Corps was lately discovered immur'd in a cavity of the ruin'd Wall on the south side of the altar." The dedication was originally to St. John the Baptist. About 1180 the Dean and Chapter of St. Paul's granted to one Zachary an annual rate-charge, which they held upon the parish. Sir Nicholas, Lord Mayor 1388-9, who died in 1390, was, together with Dame Margery, his wife, buried in St. John's. Stow mentions certain members of the Goldsmiths' Company who here found interment, including John Sutton (1450) who, *teste* Weever, was slain on London Bridge by Jack Cade's Kentish men; John Francis (1405); Drugo Barantine (1415), Lord Mayor in 1398-9; and the loyal Sir James Pemberton (1613), Lord Mayor 1611-2, who, on the day of King James I.'s proclamation, entertained forty earls and barons in his own house, and endowed a free school at Eccleston, Lancashire. This church's site was added to the parish burial-ground.

A SMALL etching of Lambeth Palace* from the river, by Mr. Edgar W. Wilson, is a pleasing example of what may be called the topographical class of etching, not destitute of artistic effect, but in which accuracy of representation has been the main object. The old buildings are very well represented, but the cross-hatched shading on the nearest portion of the palace does not convey very well the texture of brickwork, nor is it a method of treatment quite in keeping with the special qualities of etching. By the same artist is a pretty little etching also of the Bunyan Mission House, at Lambeth.

L'ARCHITECTURE for January 19th published the ground-floor plan, and the plan on the railway level, of the great new railway terminus of St. Lazare, and the attendant hotel, which is posted as an island in front of the entrance to the station, to which reference has often been made in our "Letter from Paris."

* Published by H. E. Pearce, Kennington Cross.



Scotch Sundials.—Heriot's Hospital.

THE first annual meeting of the Yorkshire Association of Sanitary Inspectors took place at Leeds on the 12th inst. The President, Mr. T. Pridgin Teale, F.R.S., said, in his address, that a case of house drainage in Leeds had recently come to his knowledge in which the drain-pipes had been laid under the basement-floor of a new building without any jointing material, the consequence being leakage at every joint. This was discovered about twelve months after the building was first occupied, when illness led to an examination of the drainage. The Buildings Committee of the Corporation had approved of the proposed system of drainage, but it was found on examination that various details in the plans had never been carried out. There is a Sanitary Committee of the Corporation also, but they can take no action until after such a case has occurred, or until it can be declared that a nuisance exists. In this case the Sanitary Committee ordered alterations to be made, but it is an unsatisfactory state of things when work of this kind is done under a divided responsibility.

WE have received the preliminary prospectus of an institution called "The Builders' Technical Aid Institute," the main objects of which are thus stated:—

"In view of the many technical difficulties that surround the trade of the builder, it has been decided by a few professional gentlemen to organise and develope an Institute whereby, with a system of co-operation, builders may gain many advantages from interchange of opinion and unity of interest. The objects, therefore, are to found an Institute for the technical assistance of builders, by which they may be able to obtain not only practical advice, but also efficient assistance in every branch of work appertaining to a builder's office. They will thus enjoy the benefits conferred by a judicious and practical application of the principle of co-operation."

This appears to be a scheme to take paternal charge of the builder who does not know his business, and see him through with it. This is very kind, and will no doubt be appreciated by the incompetent builder; but we should imagine the best of the building trade would hardly place themselves under the tutelary care of the proposed Institute. The most delightful part of the prospectus is the following:—

"It occasionally happens that builders are at times asked by clients, where no architect is employed, to make plans of proposed alterations, or even new buildings, and at such time a clear and concise drawing materially assists to bring the matter to a successful issue. It will only be necessary to send full particulars to the Institute, or an assistant would attend on the builder to take the necessary particulars, and pencil sketches submitted for approval if desired. Terms will be found to be very reasonable, according to circumstances."

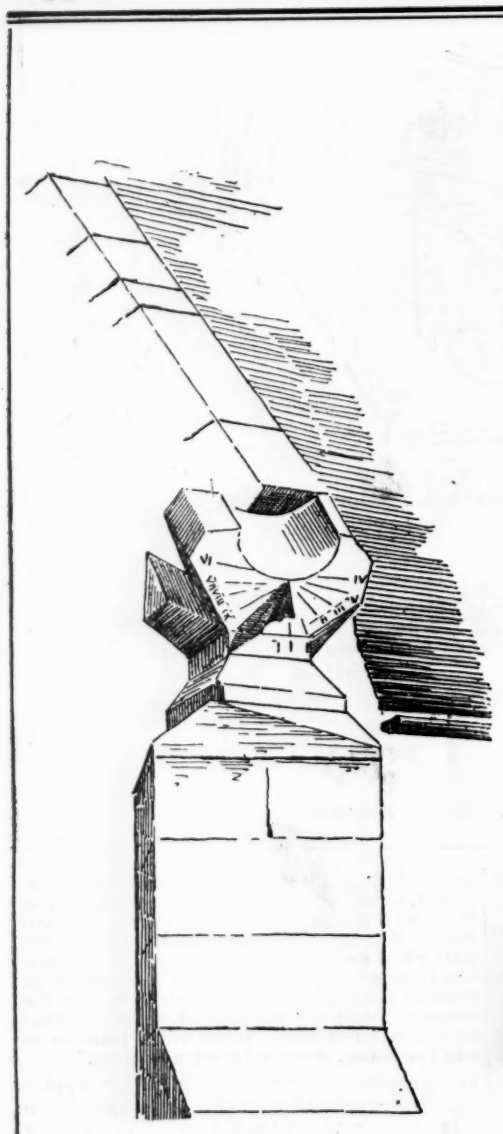
This appears to be an arrangement for supplying the jerry-builders with a little knowledge at a cheap rate, and assisting them in their chronic fight against their natural enemy, the architect. Altogether it is one of the most singular undertakings we have heard of for some time, and we are quite at a loss to understand the object in setting it on foot, or who it is who is to benefit by it.

ANCIENT SUNDIALS OF SCOTLAND.

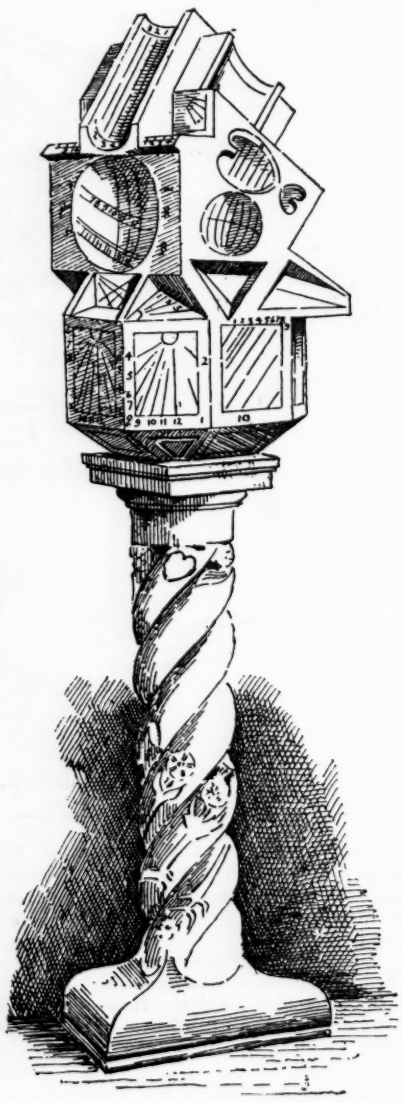
A PAPER on the "Sundials of Scotland," illustrated by drawings of about 200 examples, was read before the Society of Antiquaries of Scotland on the 14th, by Mr. Thomas Ross, architect, Edinburgh. The sundials of Scotland, the author said, were divisible into two classes,—those attached to buildings and those standing alone. Of the former kind, examples were to be found in almost every village, and in some localities they were very numerous, and certain buildings, such as Heriot's Hospital, where there are eleven dials, of some of which illustrations are subjoined, Philipstown House, Hatton House, and Innes House, derived a peculiar charm from the various dials with which they are adorned. Particular attention was drawn to two remarkable dials,—one on the church of Cockburnspath (see illustration), and the other on the neighbouring church of Oldhamstocks,—as being among the oldest examples in Scotland, and dating probably from early in the sixteenth century, and presenting features in their design not to be found on others of their class.

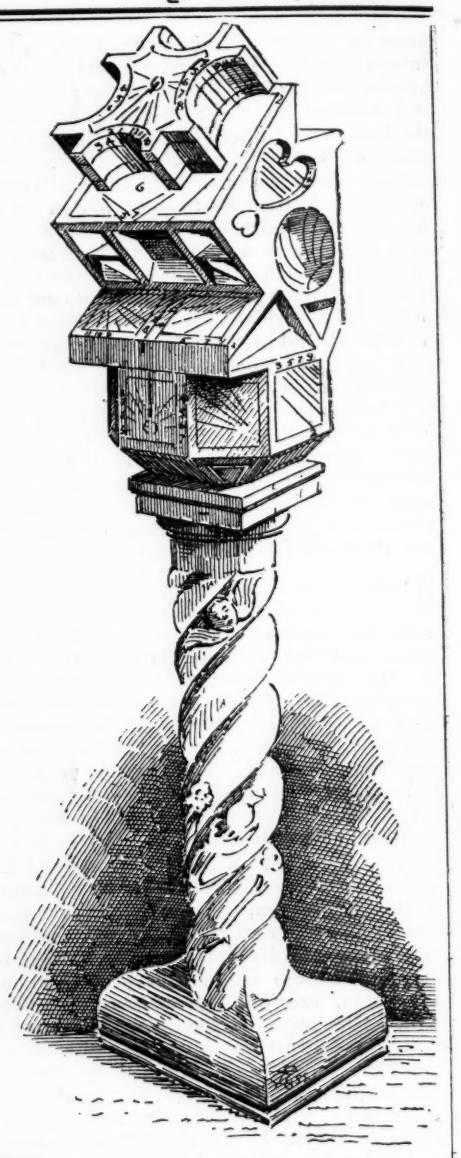
It was pointed out that the empty panels on the south-west corner of John Knox's house, above which appears a sculptured figure of Moses, were meant for dials, and not as a representation of the Reformer's pulpit, as is generally supposed.

The isolated or unattached dials are also very numerous, and, although varied in design, they were shown to be reducible to four types. 1. The obelisk dial, a lofty, thin, tapering structure, covered with hollow heart-shaped and circular figures in the lower part, each figure being a dial. A bulged capital in the centre frequently contained twenty-four faces, all lineated; while, on the upper part, there are numerous reclining dials fitted with metal gnomes. Fine examples of this type are to be

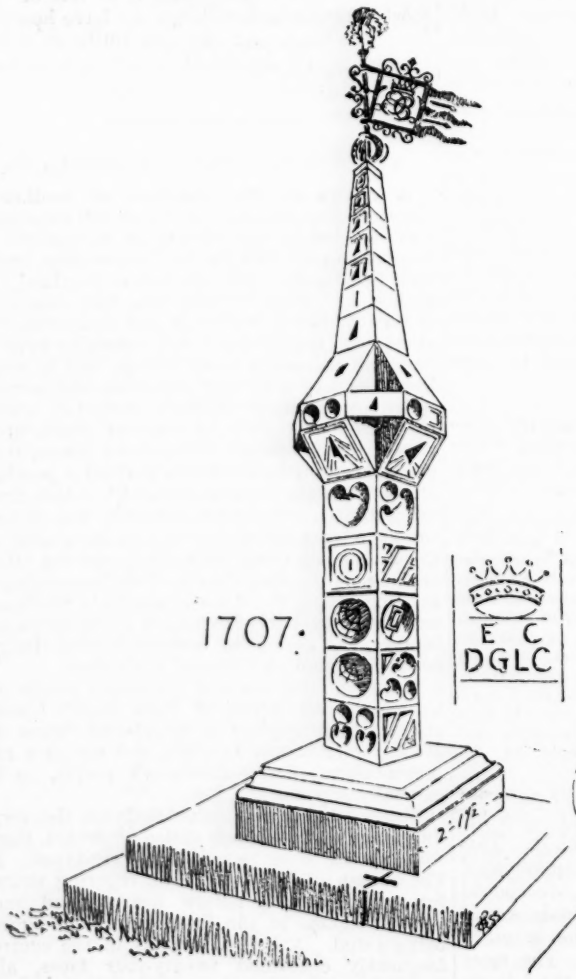


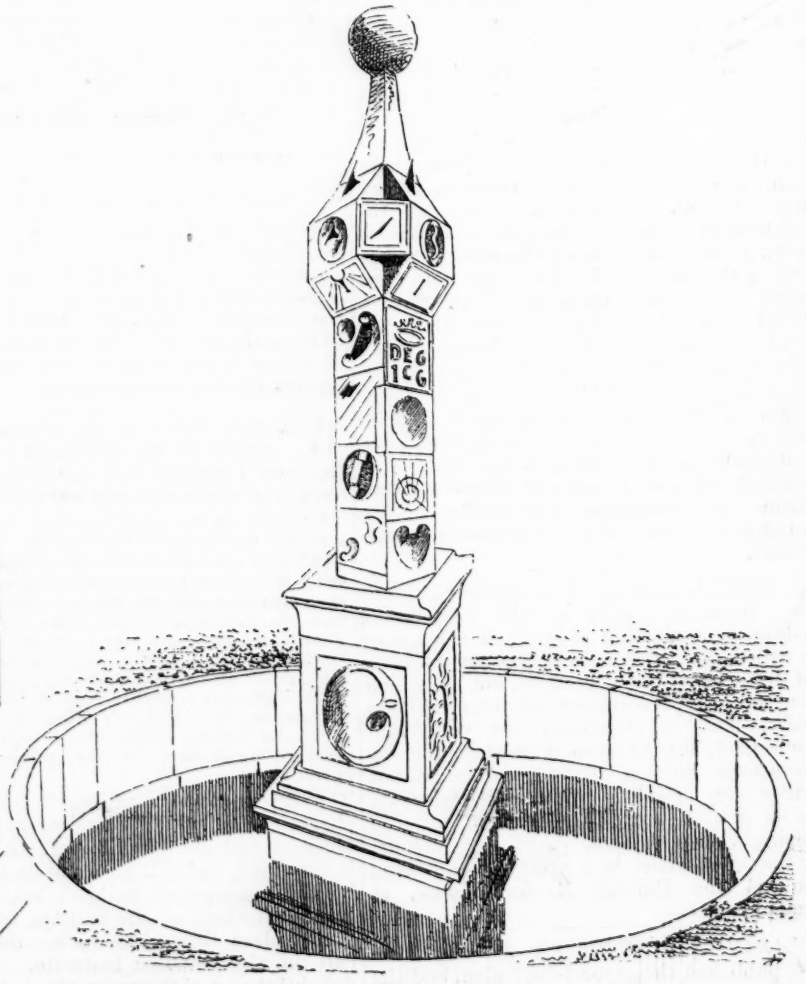
COCKBURNSPATH.





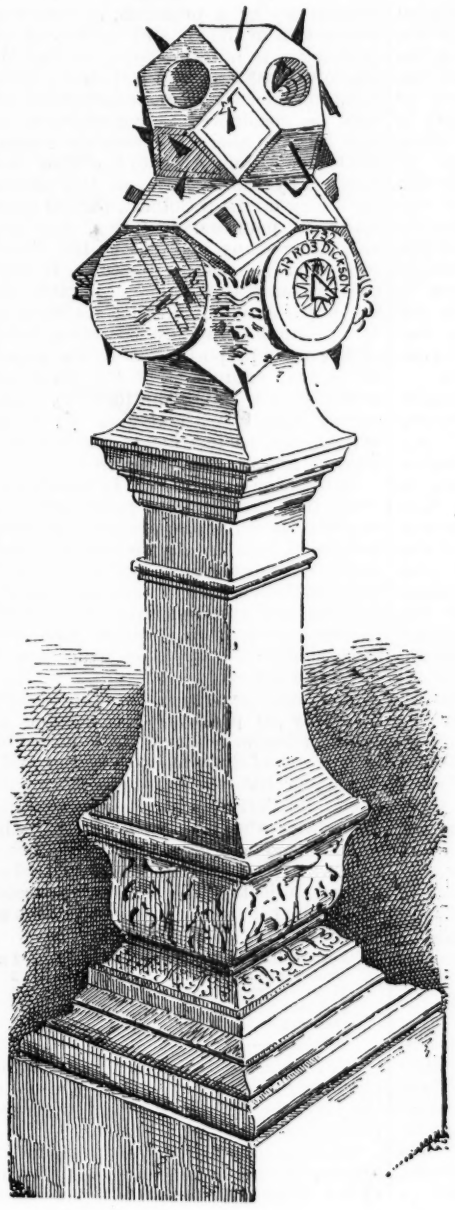
WOODHOUSELEE.





KELBURNE.

Scotch Sundials.



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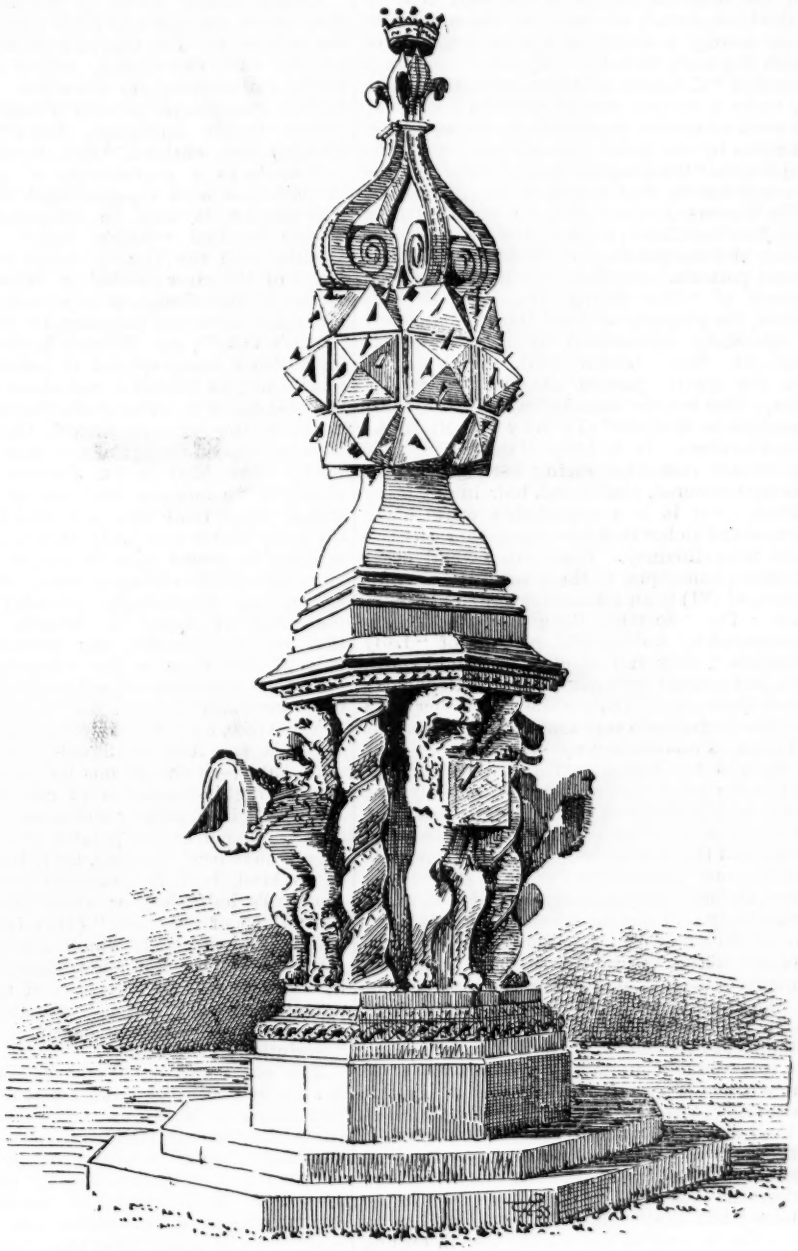


GLAMIS.

Scotch Sundials.

found at Kelburne, Ayrshire (where there are two, of which illustrations are given), Lochgoilhead, Mount Stewart, Drummond Gardens, and Invermay (Perthshire), Auchenbowie (Stirlingshire), Meggatland, Barnbougle, Barnton, and Craigiehall (all the neighbourhood of Edinburgh), and Tongue (in Sutherland). 2. The lectern dials. These consist of a shaft supporting the dial-stone, which is so cut and shaped that the structure bears a general resemblance to a lectern. This type of dial is extremely complicated, and fine examples are to be seen at Dundas Castle and Pitreavie, near Dunfermline; Ruchlaw, in Stenton Parish; and Calder House. There are the remains of one at Drummore, near Musselburgh; and a very fine one stood in the old Zoological Gardens, Edinburgh, which now appears to be lost. The most elaborate of this type is at Woodhouselee (see illustration); it originally belonged to the Napiers, and stood at their long-vanished mansion of "Wright's Houses," now occupied by Gillespie's Hospital, Edinburgh. 3. The sphere-angular dials. These consist of a large bulbous head, cut so as to show numerous discs, and generally supported on a baluster-shaped shaft. On each of the many faces there is a dial, either hollowed or flat; the hollowed ones are always round, and in only one instance (the one to be first named) are there any heart-shaped. Specimens are at Holyrood, Warriston, Cramond House (see illustration), Cammo, Woodhall Craigton, Inveresk Lodge and Inveresk House, Bowland, Waygateshaw, Cadder House, Pitfirrane, Invermay, Midmar, Mount Melville, and Glamis. The one at Mount Melville is very peculiar in having certain features to be found only in the first and second types, while the well-known Glamis dial (see illustration) is also an exceptional specimen of the type. 4. Horizontal dials. These bear a general resemblance to a card-table, and are so numerous that it would be endless to attempt their enumeration. It may be pointed out, however, that there are two classes of this type. 1st. The class with the centre baluster-shaped support, on the top of which is placed the wide table, either round, octagonal, or square, of which a fine specimen from Pinkie was shown. The table has the appearance of a Norman capital, in each of the side cushion shapes of which there is a dial, besides the large horizontal dial atop. 2nd. The class where the baluster simply swells out at the top, so as to contain the dial. Of this class a characteristic specimen from Niddrie Marischall was illustrated.

It was shown that the erection of these dials went on simultaneously, that the same man, John Mylne, erected the obelisk at Drummond-gardens and the sphere angular dial at Holyrood, and that Archibald Handasyde of Musselburgh made the very complicated dial at Cramond and the two simple dials in Inveresk Churchyard. Selecting from about fifty dated examples, it was found that the dial-making period extended from 1623 onwards for about 150 years,—not that it can be said to have ever died out, but with the exception of a remarkable dial at Bredisholm, near Glasgow, erected in 1840, few modern specimens are worthy to be compared with the ancient examples. Dials were, doubtless, made in Scotland as early as the beginning of the sixteenth century,—as at Oldhamstocks, Cockburnspath, and King's College,—but few specimens can be identified as belonging to that period, and but few references are to be found in contemporary literature,—Gavin Hamilton's comparison of Chaucer to a dial "in the Prologe to the 1st Bouke," being probably one of the earliest.

THE GROSVENOR GALLERY EXHIBITION.

THE second series of pictures illustrating "A century of English art" is, on the whole, superior to that of last year, containing a greater number of works of special interest, though it cannot be said that in this case, any more than last year, the collection is so representative as quite to meet the claims of the title. The exhibition, it may be remembered, was suggested by the collection of "Fifty years of English art" at the Manchester Exhibition, which included the fifty years from 1837 to 1887. This takes the century preceding 1837; but there are not the opportunities available for making a full and representative collection such as that of Manchester, especially as so much of the ground has been cut away by the successive Burlington House loan exhibitions. There is enough, however, to make a very interesting exhibition, and to give fresh evidence of the extraordinary wealth of this country in the pictures which are in the hands of private owners.

It is a good while since Wilkie's two exceedingly representative works, "Blind Man's Buff" (45) and the "Penny Wedding" (47), the property of the Queen, have been publicly exhibited. They occupy a prominent position on the walls of the West Gallery, and seem to have stood remarkably well. The "Penny Wedding" is the superior work, both in character and in colour; the humour of the "Blind Man's Buff" is somewhat broader, and there is little of beauty in the work, though some of the figures are admirably studied. The "Penny Wedding" is a masterpiece in its way; it is most effectively grouped; the rustic grace and courtesy of the man in the left just leading out his partner, the *abandon* of the man dancing on the other side,

and the infantile delight of the baby held up in the background, are the most charming incidents among a crowd of figures, each one of which is a study in itself. Between these hangs Reynolds' "Countess of Dartmouth" (46), suffering under a modern coat of varnish; not one of the most attractive Reynolds's we know. Other examples by the great portrait-painter are the well-known "Crossing the Brook" (57), and the less well-known half-length of two little boys, "The Masters Gawler" (50), accompanied by a large Newfoundland; a rich and beautiful piece of colour, an ideal painting of children rather than a mere portrait. Another fine Reynolds is the portrait of "Mrs. Morris" (5), like the last-named, the property of Lord Burton. Romney is splendidly represented by the noble portrait of Mrs. Jordan (20), which occupies the centre portion at one end of the room. Also is to be remarked a head of "Lady Hamilton as Miranda" (7). Why "as Miranda" is not evident. Is it Lady Hamilton at all? We do not remember seeing her painted with this rich-coloured, almost red, hair in any other portrait; but it is a remarkable work, much warmer and richer in colour altogether than is usual with Romney. There are several other Romneys, none equal to these two. His portrait of himself (81) is an interesting and expressive work. The "Scottish Reynolds," Raeburn, is represented by a delightful portrait of "Lady Inchiquin" (69), full of character and expression, and painted with great vigour. Reynolds's "Lord Dartmouth" (95), in the East Gallery, is a very fine portrait of a very unattractive personage.

Turner is represented by several works, none of them in his highest style. "Pope's Villa" (41) is the most noteworthy, exceedingly fine in the middle distance, but distinctly faulty in the foreground; the sheep are bad, and the men worse, and the foreground generally painted in rather a raw manner for Turner. His "High-street, Oxford" (34), an early work, is admirable for its unity as a picture, for the careful delineation of the buildings, and the exquisitely delicate and aërial sky in the distance; but how modern critics would come down on him for want of "local colour"—for his manner of working up the roadway with the same tone as the stone buildings, to give unity of effect. An exhibition like this would be of more educational value, we may observe, if the pictures as far as possible were dated; some for comparison with the work of their contemporaries; Turner for comparison with himself. There seems to have been no attempt at dating in the catalogue, except giving the date of birth and death of the painter; but that counts for little in Turner's case; the interest of the matter lies in tracing the course of his gradual and extraordinary changes of style.

If the Turners are not of the highest, however, the exhibition has something to set off against this in Constable's well-known and magnificent work, "The Lock" (85), lent by Mr. C. Morrison. Among other Constables a small but splendid work is "Yarmouth Jetty" (37), a sea-piece (unusual for Constable) full of light and freshness, and most beautifully composed. From the note in the catalogue, it appears that this little gem was a thing thrown in to complete a bargain with a certain "Frenchman," who was to pay "250*l.* the pair" for two larger pictures, "and I give him a small picture of Yarmouth into the bargain." Fortunate Frenchman!

The "Norwich School" is largely represented, more so decidedly than is in proportion to the rest of the exhibition; and Stark's pictures are not, it must be confessed, of high interest. The pictures of Vincent, however, will surprise those (and they are many) who know little of his work; the "Greenwich Hospital" (16), a river view, with the hospital in the distance, is a noble painting of its class, and not unlike a Turner of the early period. Cotman's special genius is very well represented in his remarkably powerful painting, "The Homeward Bound" (35), where a large ship, under canvas, sails up towards the foreground, over a dark sea and with a lurid sky behind her; the look of movement and power on the ship is remarkable; Cotman's large painting, "Scene on the East Coast" (141), is a mere magnified sketch, fine in colour, but utterly bare of detail. If it was regarded at the time as a finished picture, the fact is a curious comment on the change in the view of the responsibilities of landscape-painting since then. There are some fine things by Crome, but his "Sea-piece" (145) is altogether too tremendous. We may mention also a remarkable Gainsborough landscape (98).

Among various works by Morland, many of them good, the best and most characteristic of the painter is "The Carrier's Stable" (63), an interior with two horses, and a man in the foreground sleeping on the straw. Among the various examples of Richard Wilson's sweet but rather feeble landscape (imitative, too, of Claude) that entitled "Sion House" (44) is noticeable as a combination of poetic effect in landscape with topographical accuracy. In this respect it may be compared with the Turner entitled "Pope's Villa." Every one familiar with the Thames would recognise the reach of the river painted by Wilson, and the aspect of Sion House, at once; not many would recognise the scene intended to be shown in "Pope's Villa"; yet Wilson's landscape is not in the least topographical in general aim and sentiment; he treated a real scene so as to get the best out of it, without altering the facts.

Among the figure-pictures is Gainsborough's in some respects beautiful and most interesting work, "The Mall in St. James's Park" (4), which, if we mistake not, was at Burlington House some time ago, and which shows us the Lady Kittys and Lady Bettys of the time walking in groups under the shade of the then large and thickly-foliaged trees. Some of the figures are exceedingly graceful, and give the idea of being a faithful representation of the manner and *tournure* of the lady of that time in her every-day walking-out trim. The trees are a drawback, certainly; they are finely massed, but they indicate no genuine tree, only the Gainsborough shorthand for foliage. Another figure-picture which is remarkable,—it should not be passed over,—is a small, highly-finished work called "Children Dancing" (133), painter unknown. It is strange that the name of the painter of such a work should have been dropped, for it is a little gem of its kind, both in character and execution. Stothard's half ideal or allegorical picture of the "Rape of the Lock" (118) is to be seen, once a famous work, which hardly holds its place now; there are some beautiful heads in it, but it is too odd a mixture of the real and unreal, and the "sylphs" are absurdly large and corporeal, quite in contradiction to the description in the poem.

The small gallery, filled with sketches and studies by Constable, forms a part of the exhibition which is of the greatest interest. These hasty sketches exhibit in a remarkable manner Constable's power of seizing on the possibilities of effect in a scene, and rapidly placing them on paper in a broad and massive manner. Among the most remarkable are 249, 254 (a study for the great "Dedham Vale" picture), 263, 274, 287, 294, 301, 302. The Grosvenor Gallery would be worth a visit for this collection of sketches alone.

SOME NOTES ON ARCHITECTURAL EDUCATION AND PRACTICE IN FRANCE.*

THE objects of our Association being (1) to afford facilities for the study of civil architecture, (2) to advance the profession, (3) to serve as a medium of friendly communication between the members and others interested in the progress of the art, I trust that the few notes I have brought together as a result of observation during my stay in France last year as holder of the Godwin Bursary, may not be without interest, as it is considered by some that the method of education is more systematic, and professional practice more uniform, than in England,—that they may tend to make us all appreciate more fully the advantages which we already possess, and, where room exists for improvement, that we may strive by united efforts to secure it.

Thanks to the introductions which I received from his Excellency Lord Lytton, the British Ambassador in Paris, to M. Lockroy, the French Minister of Public Instruction and the Fine Arts, I visited the principal schools, museums, and libraries under the most favourable circumstances, and with those best able to afford me information. I was also present throughout the annual conference of the Central Society of French Architects, held in June, when papers were read and discussed, and new works of interest visited, thus coming in contact with many past and present students of the École des Beaux Arts, both in the sections of Painting and Architecture.

Architectural apprenticeship, as understood in England, by which a student binds himself to serve an architect for a term of years, usually paying a premium, in return receiving instruction in the art and mystery of his future profession, is hardly known, so that the young aspirant must seek his preliminary training at a special school. French architectural education may be considered as concentrated in Paris, and for this there are weighty reasons. The École des Beaux Arts, in the Rue Bonaparte, founded by Louis XIV., on the advice of his far-seeing minister Colbert, for the special education of painters, sculptors, and architects, has, under many changes of the Constitution, continued its useful mission. It enjoys one great advantage over our admirable schools at the Royal Academy, in that its funds are voted by Parliament, and are, therefore, independent of a revenue proportionate to the popularity of an annual exhibition of the three arts, thus enabling its administrators to foster each branch equally without risk of curtailing its income, and to instruct the public as to their relative importance and sphere.

Instruction at the École is wholly gratuitous,—the best architectural prizes are open to its students as an encouragement to diligence,—architects look to its ateliers for their assistants,—a successful career is one of the best introductions to the numerous municipal and Government appointments,—and, lastly,—the Government diploma (*diplôme d'architecte*) can only be obtained by those who have followed its entire course.

To gain admission to the École, it is necessary to pass an examination involving some preliminary knowledge of architecture, as well as of drawing, modelling, and mathematics, so that more than one school, or atelier, exists in Paris for the purpose of qualifying candidates who, when they first leave the Lycée, or college, would have no chance of success.

The comparative importance attached to the several subjects dealt with in this examination may be learnt from the scale of marks awarded, thus:—

For architectural composition	2 marks.
Drawing of a head	2 ,,
Modelling of a piece of ornament	2 ,,
Mathematics	5 ,,
Descriptive Geometry	5 ,,
History	1 ,,

But, unless the designs, the drawing of the head, and the modelling are approved by the jury, the candidate is not admitted to the remainder of the examination.

When once admitted into the second class, the architectural student is entitled to the privileges of the École until he is thirty years of age. His time is largely spent in the atelier, or studio, where, with perhaps thirty other students, he prepares drawings which are either studies of old buildings or else designs for new, in order to fulfil the conditions of the successive programmes given by the professors. There are three separate ateliers for architects in the École, each of which is directed by an architect-professor, appointed by the Administration, and new students are admitted to one or the other by choice in order of their merit as candidates. In addition to these ateliers are what are termed *ateliers-libres*, which are not in the École, but are conducted by architects of distinction, who thus impress their enthusiasm and influence on architects of the coming generation.

Fees are charged for admission to these *ateliers-libres*, and the director, or *patron* as he is called, is enabled thus to maintain a somewhat higher status amongst his pupils than is possible in the École proper. The good fellowship or *camaraderie* which results amongst the young men thus closely associated together for several years (the "Grand Prix de Rome" being rarely won with less than eight years' hard work at the École), leads all to be jealous of the credit and prestige of their atelier, and affords in after-life a bond of union amongst them which cannot but be satisfactory.

Life in the ateliers has been ably described by Mr. R. Phené Spiers, the respected Master of the Architectural School of the Royal Academy, who was himself a pupil in the atelier of the late Mons. Questel. The courses of lectures at the École for the student-architects are most comprehensive, and a complete list will be found in the very interesting report of the papers on "Education," read at the Conference of Architects held in London, in May, 1887, and published by Mr. Arthur Cates, the chairman (page 74). These lectures are given by a staff of professors who treat separate subjects, but work with a single object,

* A paper by Mr. Francis Hooper, read before the Architectural Association on the 18th inst.

namely, the development of students into well-equipped architects.

It is this systematic instruction in matters appertaining to architecture that I greatly wish to see introduced into our English institutions. We cannot boast of a College of Architecture, but there is more than one institution in which history,—geometry,—mathematics,—chemistry, and the like are fully taught, and could they but be brought to bear directly on architecture and building-construction would afford all the advantages which the French students at the École have long profited by.

Our Royal Academy school, on the other hand, possesses advantages which the Paris students sorely lack, although much of the architectural work there must be done after business hours. For the constant change of visitors, so distinguished in their profession, prevents the students running in the grooves in matters of design and draughtsmanship, which is called "Tradition" in the Paris ateliers, whilst the student profits by their united experience and thought.

Again, Academy students draw information and experience from a multitude of different architects' offices, and can, therefore, afford each other invaluable advice and assistance.

A very real defect of the French system is that little enthusiasm is created amongst students for the study of actual buildings, except from books and photographs, so that too much reliance is placed on the appearance of designs on paper, and too little on the ultimate effect.

As far as I could judge from interviews with young architects and students business experience is difficult to obtain in Paris, as architects when busy mostly obtain temporary assistance, which, though well paid whilst it lasts, does not afford the settled occupation so desirable to young fellows living, as so many of them do, away from home.

Lithography and printing are, again, largely used for reproduction of work, so that there is less need of large staffs, and draughtsmen are constantly glad to return to the ateliers to continue their studies and help their fellow-students. Many men seek employment under architects as "inspectors," or, as we should call them, clerks of works, to thus obtain the practical experience of the conduct of building operations which an academic education lacks. Such an appointment on an important public building is in much demand, as it often proves a stepping-stone to promotion and intercourse with the authorities. It is by such employment the Government gives the helping hand to students returning from their travels after gaining the Prix de Rome. The first appointment is to act as *auditeurs*, or secretaries, to the "General Council for Building," which is a body of experts who advise the Government on all architectural matters, such as the erection of public buildings, new monuments, street improvements, &c., and these students, whose devotion to their art and capacity for work are thus tested by the leading members of the profession, have rarely long to wait for employment, which, though at first very modest, paves the way to better things.

In connexion with the work of the École is a course devoted to Decorative Art, and presided over by M. Galland, a distinguished artist, and pupil of the late M. Labrouste. This course is equally available for students of architecture, painting, and sculpture, and intended more for instruction and practice in composition than in colour, though both are well considered.

It is interesting to note that before entering the École, painters and sculptors alike are required to have some knowledge of architecture, of which they must give evidence in examination.

M. Galland was mainly instrumental in founding the Union Centrale des Arts Decoratifs, the object of which is to afford facilities to designers and craftsmen for the historical and æsthetic study of their art. Its agencies consist firstly of a well-ordered library in the Place des Vosges, open free from 10 to 5, and from 7 to 10, where some 8,000 choice books on all branches of art may be consulted, and sketches or tracings made, a librarian being in attendance to assist inquirers; whilst a small collection of plaster casts is disposed conveniently for drawing.

Its second agency is an admirably-arranged permanent museum of Decorative work in the east wing of the Palais de l'Industrie, in the Champs Elysees. This will remind a Londoner of the South Kensington Museum on a small scale,—for in it are to be found gold and silver smiths' work, pottery, carving in wood, ivory, stone, carpets, tapestry, embroidery, lace, and silks, photographs and drawings of many fine specimens of decoration as well as designs and cartoons by masters of the art, so that the student may store his mind with good work before venturing to commit his ideas to paper or canvas.

The Galleries of the École des Beaux Arts themselves contain an admirable collection of casts of sculpture,—bronzes, and other architectural details,—whilst its extensive library possesses most of the best works of the day, where, too, are to be found many of the drawings which have gained honours in past competitions, evidencing the high standard of skill attained by the students, and showing also the bent of the instruction given.

A remarkable collection of casts for the study of the history of sculpture in all parts of France occupies the east wing of the Trocadero Palace, M. Courajod being its enthusiastic curator. The specimens, many of which are of great size, are arranged chronologically, and each bears a brief description of place and date, whilst a collection of photographs, both general views and details, add reality to the specimens which of necessity are but fragmentary.

To an antiquarian student the Musée Carnavalet will prove of great interest as illustrative of the history of Paris from the Roman occupation to modern times. In the various State museums and galleries open to the public, such as the Louvre, Luxembourg, Cluny, Gobelin, art students find happy hunting-ground, and others need not be enumerated, as every handbook contains a list.

Before leaving the question of education, I wish to make a suggestion based upon the double competitions which find favour at the École, and in which a limited time is allowed the students to prepare a sketch-design in the presence of the professor, which serves as a basis for the more elaborated drawings, perhaps involving a month's work to complete.

At the present time the Class of Colour Decoration attached to our Association finds difficulty in obtaining support from the members, due doubtless to the fact that the studies occupy so much time that few can afford the sacrifice. My suggestion is that each subject should, in the first instance, be dealt with as a sketch-design made in the presence of the Visitor, who would after, say, one and a-half hours' work, criticise the sketches made, and those who had time might afterwards re-draw them at leisure. Were this to succeed, the principle might be adopted in other senior classes, the subjects being suited to the short time allotted. There need be no use of straight-edge or compasses, and men might be encouraged to work in charcoal, and so practise committing an idea rapidly to paper. The classes would become more sociable as the members thus worked together, and would partake of the advantages of a sketching-club.

Turning now to architectural practice, the title of architect in France I believe to have a wider application than in England, inasmuch as the *architecte* undertakes many of the duties which we term "surveying"; indeed, there seems to be no title corresponding to our "surveyor," whether in the administration of the Building By-laws, of the police regulations, the inspection of theatres, or the conduct of compensation or other litigious business.

In the preparation of working-drawings, I am not aware that French architects adopt any methods not practised, or, at any rate, unfamiliar in England. I remarked that many of the general plans which I saw, even for buildings of considerable extent, were to a scale of 2 centimètres (m. 0·02) to the mètre, which is about ¼ in. to the foot, and therefore greater than is usually adopted in England. I noticed also, in some instances, many details of design and construction were left to be decided when the building was proceeding, a course tending to a better result architecturally than is the case if every point is settled, perhaps hastily, before the work is begun, but involving considerable labour in the settlement of accounts.

I have already remarked that lithography is much employed in the reproduction of drawings, and its convenience is manifest when it is borne in mind that not only do local authorities require plans to be deposited with them, but that the custom of employing several independent tradesmen, each of whom requires different instructions, involves the preparation of numerous copies.

On one building which I visited, the foreman's drawings were printed on smooth white calico, the lines and figures standing out clearly, and seeming to resist very well their necessarily rough usage. I need scarcely say that these copies were not coloured.

In public works the architect prepares the working-drawings and details together with the *devis-descriptif*, or specification, which comprises a general description of the work to be executed, as of the materials and workmanship to be employed, and these are transferred to a *verificateur*, or measuring surveyor, who is frequently one of the permanent staff of the department requiring the work.

In private enterprises, the architect not only prepares the plans and specifications, but also the bills of quantity, when such are required by the form of contract adopted.

There are many forms of tendering, as in England, but two only are in general use, viz., (1) the *marché-à-forfait*, a lump sum, based on the plans and specifications without quantities; and (2) the *marché-au-rabais*, a tender based on bills of quantity, prepared by the architect or at his expense, priced according to a recognised *serie des prix*, or schedule, by the architect himself or the verificateur, and consisting of a uniform percentage either above or below the scheduled prices.

In the former method, viz., the *marché-à-forfait*, for the purpose of obviating any dispute in the pricing of variations, the architect provides in the Conditions of Contract that such prices shall accord with a published schedule, which he cites, and upon which the contractor tenders his percentage, either in excess or as a discount; whilst in the latter, viz., the *marché-au-rabais*, the tender is based upon bills of quantities and not on the drawings, so that there is no difficulty in arriving at a final settlement, the work being measured as it proceeds, and vouchers of weight, &c., transmitted to the architect of all items, the measurement of which would be impracticable on completion.

These systems, which, as far as my knowledge goes, are rarely adopted in England except for the periodical contracts of certain public bodies appear to merit some attention, as they afford the architect a basis for accurately estimating the cost of any alterations to his plans,—and thus of constantly checking the expenditure,—whilst the contractor is saved any risk in respect of insufficient quantities or clerical errors in the pricing of innumerable small or large items, a careful examination of the plans and specification is sufficient to acquaint him with the general character of the work for which he tenders.

For arriving at the final settlement of accounts the "*metreur*," or estimating clerk of the contractor, meets the "verificateur," or measuring surveyor employed by, or conjointly with, the architect, and if the result is not satisfactory to both parties, it may at least be said that the system is not at fault.

In Paris and in all the chief French provincial towns a schedule of prices is drawn up and revised every three or four years by the municipal architect as the basis of all the municipal contracts, and this schedule is also available for private work, copies being sold for the use of municipal contractors and others.

The method of tendering by separate trades is generally adopted in large undertakings, although involving considerably increased responsibility on the architect, and is strongly advocated on the ground that a contractor with a staff of men belonging to a single trade is more likely to be proficient in that trade than one who undertakes all trades alike. In France, too, with universal suffrage, there is more tendency to encourage the small tradesman than is the case in England. Whether, however, the position of the individual craftsman is in any degree bettered by such a course is still with me an unsettled question.

Technical training for artisans is more extended than in England, and in many places apprenticeship schools are maintained by the municipality in a high degree of efficiency, as in Havre, where boys are instructed in plumbing, forging, and casting iron, carpentry and joinery, as well as drawing and geometry.

It appears to me a subject worthy the consideration of British architects whether in the direction in public instruction they should not exert their influence to give artisans facilities for obtaining such training as would promote their co-operation in building operations.

In town practice French architects have some advantages which their British brethren do not yet enjoy. Land is invariably the property

of the building owner, so that, beyond conformity with the street alignment and the municipal by-laws, they are unfettered as regards the general character of their designs.

The details of the Paris by-laws are embodied in my recent report on "Building Control," addressed to the R.I.B.A., and I will merely state that the height of façades and roofs are limited in proportion to the width of the streets they occupy,—that courtyards and air-shafts must be not less than a given area in proportion to the height of the enclosing walls,—that projections over the footway are restricted, and the minimum height of the several stories is fixed.

The French architect again is not harassed by "Ancient Lights" as they exist in England, the law recognising no right to light derived over the property of another, except from the streets, which are regarded as public property. The height of buildings bordering on the streets is limited in the interests of the community in order to secure ample light and circulation of air for their proper sanitation, and partakes of the nature of a natural "servitude" on the land, any infringement of which will involve prompt pulling down by order of the police, and inevitable loss to the building owner.

For protection against such loss the French Civil Code clearly defines the responsibility of both the architect and contractor in respect of faulty construction, whether due to planning or improper materials and workmanship, and such responsibility extends over a period of ten years.

At the time of the framing of the Code of Laws in 1803, it appears to have been a recognised custom for an architect to make a contract with his client for the execution of certain work for an agreed sum, hence the architect shared in the profits or losses of the enterprise—his responsibility towards his employer was that of the contractor also, and his obligations were so set forth in the "Code." Now, however, architecture has become a distinct profession in France, as in England, and architects no longer share the profits or the risks of the contractor. This change of practice has led to the publication of numerous treatises on the subject, a copy of the latest of which I received from its author, M. Achille Hermant, Vice-President of the Société Centrale des Architectes Française, who has investigated the matter with great care, so that a definite course of action may be taken by the "Caisse de Defense Mutuelle," which is an association for defending its members in case of need against miscarriage of justice, and for inquiring into questions of practice affecting the profession at large.

In England, the accuracy and efficiency of plans are in no way warranted, and a client, if he suffers loss, must prove negligence on the part of his architect before he can secure redress. Whilst the French client enjoys the security against losses afforded him by law, architects as a body have no wish to be relieved of the responsibility imposed upon them, as, with increased responsibility, their functions are the more honourable. An agitation is, however, being made against their responsibility for defects beyond their contsol, and which may be invisible, and due to economies effected by the contractor for his own profit.

Professional services of a purely architectural character are paid by a commission, as in England. On large public works the rate of remuneration varies from 2½ to 3½ per cent.; but it must be borne in mind that the architect is not called upon to deal with the accounts, and on important buildings he is given a resident assistant.

The commission of 5 per cent., which is the usual fee for private work, includes the preparation of estimates, bills of quantity and settlement of accounts, as well as the payment of an *inspecteur* or clerk of works, unless under special circumstances, when an agreement is made on the subject; but in no case does the architect permit the clerk of works to be paid through the contractor.

In every town which possesses Courts of Justice there are *architectes-experts*, who are summoned by the justices to give advice and evidence on matters in dispute about building property, and paid by "vacations," that is, by the time expended, their fees being taxed by the Court in the usual way.

For the erection of almost all important public building competitions are invited, and these sometimes bring to the front the younger men trained in the State schools. In these competitions French architects have a distinct advantage over us, for, in the first place, the conditions are invariably submitted before being issued to the "General Council for Buildings," which is composed of the leading members of the profession, and nominated by the Minister of Public Instruction and of the Fine Arts; and, in the second place, the designs submitted are examined by them in order to insure the justice of the award.

It is somewhat to be regretted that the committee who organise the annual exhibition at the *Salon* will not admit designs submitted in competition. An English visitor cannot but be struck with the size of the architectural exhibits, many being too large to frame, and are, therefore, mounted on strainers. Unlike the Royal Academy Exhibition, photographs of executed work often accompany the geometrical drawings.

Each year one of the most important architectural exhibits consists of the drawings made by the winner of the Prix de Rome, who has just completed his residence at the French Academy.

Last year there were two such exhibits by M. Giraud and M. Duglane; that of the former consisting of a design for the restoration of the Villa of Hadrian and part of the Palace, and for which he received a gold medal; not only were the architectural details most minutely studied, but also the decoration in colour of the walls, floors, and cupolas. The latter exhibited drawings of the Palace of the Cesars on the Palatine Hill.

The characteristics of French architectural drawings are more or less familiar to all. The free-hand ornament and figure drawing, as a rule, are admirably executed; strong projected shadows give life to geometrical elevations, and fanciful surroundings, in the form of freely touched-in landscape, undoubtedly lend a charm to even the most commonplace design.

It is not a little curious that in spite of the wonderful power of French architects as colourists, so little is done in introducing colour on the exterior of buildings or the employment of coloured materials. M. Sédille, who not long ago contributed a paper on the subject of coloured architecture to the R.I.B.A., is making efforts towards reform in this respect, and his façade to the newly-erected "Magazin du Printemps" is a decided step in the right direction, glass mosaic being most happily introduced in broad surfaces.

Visitors to the Universal Exhibition of this year will have an opportunity of studying in the newly-erected iron buildings what can be done in obtaining architectural effect without great expenditure, and we may look forward with much interest to the report of the holder of the Cates Prize.

In conclusion, I would strongly urge English students to utilise to the full the many facilities already possessed for securing architectural education, rather than to lament over advantages enjoyed in a greater degree in other countries, although I feel strongly that we should be familiar with all that is being done abroad, so that we may profit by their successes, and, if possible, avoid their failures.

[A report of the discussion which followed is given in other columns.]

Illustrations.

THE OLD HÔTEL DE VILLE, PARIS.

THIS building is the subject of our double-page typo-gravure, and is also the theme of our leading article this week.

SEVEN SISTERS' ROAD SCHOOLS FOR THE TOTTENHAM SCHOOL BOARD.

THE site of these schools is a very good one, being bounded by streets on each side. The area is about one acre. Accommodation for 1,500 children is provided on three floors: the infants on the ground floor, boys on the first, and the girls on the second floor. There are two entrances to each department, and the class-room system is adopted throughout.

The materials are yellow bricks with red brick dressings, stone being used only for the steps and sills. The roofs are slated. The whole building will be heated by hot water. The estimate is about £12,000, including all boundary walls, fences, caretaker's house, heating, playgrounds, &c.

Mr. Charles Wall, of Chelsea, is the builder, and the architect is Mr. Charles Bell, F.R.I.B.A., whose design, and also that for the Noel Park Schools, similar in size, were selected in a limited competition a year ago. Mr. Gough is the clerk of works.

COTTAGES AT ECCLESTON, EATON ESTATE.

THE four cottages shown in our illustration were recently erected in the village of Eccleston, at the corner of the road from Chester; and advantage was taken of the space at command to lay them out on a plan best adapted to combine convenience of arrangement with picturesque grouping.

The entrance-doors are approached by a covered way on each side of the central court. The cottages in the centre of the block are adapted for the use of widows, the other two being larger, and the one on the right hand has a shop also, with an entrance from the road at side.

The red brick walling, local stone windows, and brown tiled roofs present a pleasing combination of colour as seen in the natural setting of grass and foliage. Mr. George Parker, of Eccleston, was the builder; and Messrs. Douglas & Fordham were the architects employed.

BAY OF EAST WALK OF CLOISTERS, ST. TROPHIME, ARLES.

THIS is a measured drawing of a portion of the Romanesque work, a description of which accompanied the general view published in the *Builder* of March 31 last year. It is measured and drawn by Mr. A. Needham Wilson.

NEW OFFICES IN BUTE-STREET, CARDIFF:

FOR MESSRS. CORY BROS. & CO., LIMITED.

THIS design was awarded the first premium in the recent competition, after being adjudicated upon by a professional assessor, Mr. J. P. Jones, of Cardiff; the fifty-five sets of designs being first reduced to nineteen and afterwards to six, previous to the final selection being made. The instructions to architects were drawn up most minutely, the number of rooms on each floor being specified, and in two instances the sizes also were given. Alternative designs were asked for from each competitor showing shops on the ground-floor, but this idea has since been abandoned.

A strong-room and three muniment-rooms are provided in the basement, with store-rooms for stationery, &c., heating-chamber and cellars. The lavatories (as required) are grouped around the open area on one side of the stairs. A small staircase and a lift are shown in the accountant's office leading directly to one of the muniment-rooms for conveying the large and heavy ledgers without using the general staircase. Telephone offices are provided, and small lifts for telegrams, letters, &c., to be sent from one floor to another.

Caretakers' apartments are placed on the third floor, consisting of living-room, scullery, and three bedrooms, with the usual conveniences. Store-room and tank-room are provided above, the remaining floors being devoted to offices as arranged on the two plans published with the perspective view.

The whole of the floors are to be of fireproof construction, and the staircase of stone.

The height of the rooms on the ground and first floors are, respectively, 14 and 13 ft. in the clear; the offices on the second floor being 11 ft. 6 in.. as instructed. Extra light is obtained at the north end of corridor between the ceiling of same and the false ceilings of telephone office on the ground floor and of lavatories above, these being only 9 ft. high, but the windows are carried up the full height of corridor.

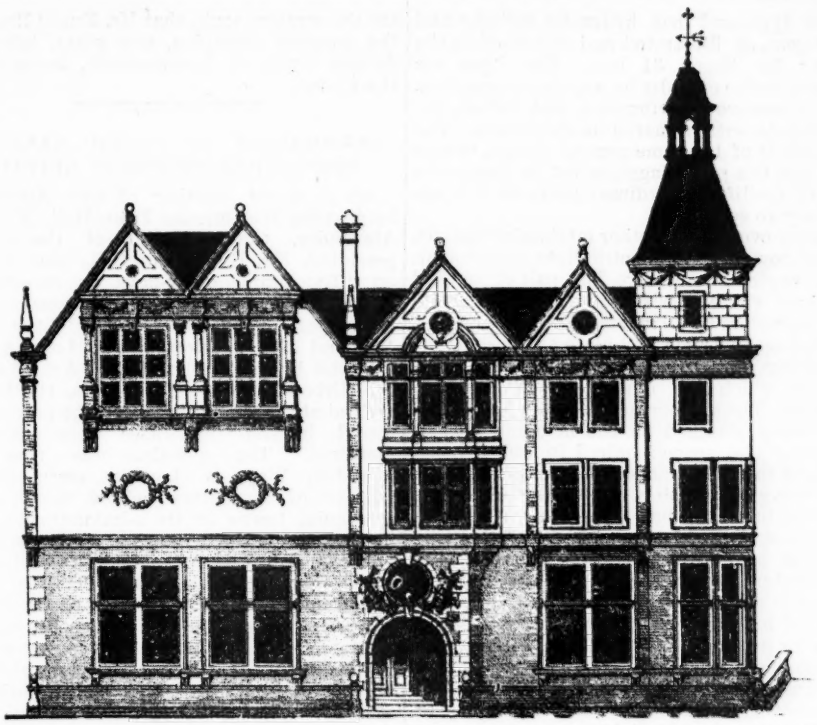
The first story of the building is proposed to be faced with dressed Ham Hill stone, the remaining upper portion being of red pressed brickwork, relieved with Monk's Park Bath stone and polished Aberdeen granite columns.

The successful architect, Mr. Edward H. Bruton, of Cardiff, has been entrusted with the carrying out of the work, the cost of which will be about 8,000*l*.

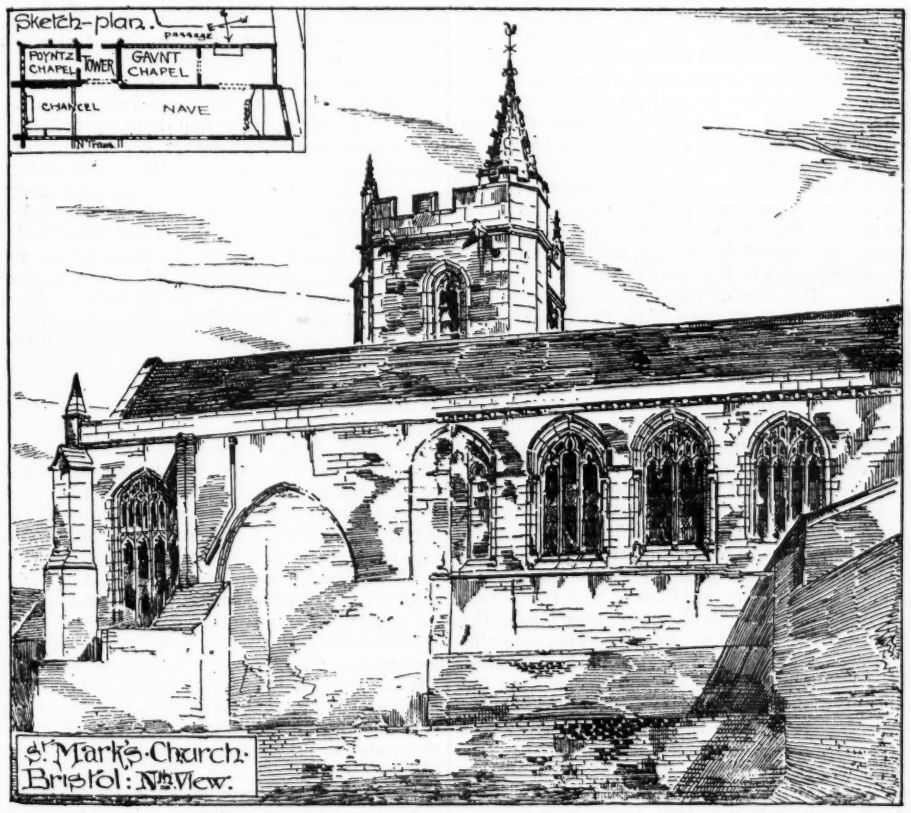
Greek Mouldings Illustration Fund.—Mr. Penrose, the treasurer for this fund,* asks us to announce the following subscriptions since last week:—

Mr. E. R. Robson	£3	3	0
Mr. Ernest A. Runtz	1	1	0
Professor Hayter Lewis	2	2	0

* See *Builder*, January 5, page 5.



Competition Design for the Battersea Free Library.—By Mr. Walter F. Lyon, F.R.I.B.A.



ST. MARK'S CHURCH, BRISTOL.

ST. MARK'S CHURCH, generally known as the Mayor's Chapel, is on the east side of College Green. It formed the church of the "Bonhommes," founded by the Gaunts in 1231. A considerable portion of the present building is probably of that date, with later windows in the Decorated and Perpendicular style inserted. It consists of a nave and chancel (without chancel arch), a south aisle to the nave called the Gaunt Chapel, in which is the effigy of the founder, a tower forming a transept, and the Poyntz Chapel east of this, forming a south chapel to the chancel. There was formerly a north transept, but it has been destroyed, and until within recent years, houses existed against the wall of the church at this point. The windows of the chancel are good examples of Perpendicular work, especially the east window, which has some fine glass. On the north side of the Sanctuary are the canopied monuments of Sir Thomas Berkeley and his wife (1361), and Salley, Bishop of Llandaff (1516), both of which are fine examples of carving. In the Poyntz Chapel are some tiles—a few early, and bearing armorial shields—others late. They are given in Lyson's Etchings of Gloucestershire.

This interesting church is now being restored by Mr. Pearson, who is rebuilding the north transept, and forming a cloister outside the north wall communicating with a door at the west end. Several interesting fragments have been found, and traces of a tomb between the nave and Gaunt Chapel. In the north wall of the nave, near the west end, are doors, which perhaps communicated with the Priory buildings. There are some good Decorated windows in the south aisle, on the south side and at the west end, the latter being particularly rich ornamented with ball-flower, and resembling those in the south aisle at Gloucester Cathedral. The sketch here given shows the exterior of the north wall after the demolition of the buildings, and before the restoration was commenced. Only one of the Early English windows remains at all perfect, a second being blocked up, and the remaining two having been cut about in later times for the insertion of Perpendicular tracery. An interesting feature is the original corbel table, ornamented with heads of the period. This also exists on the south side, but is difficult to see on account of buildings which adjoin the church on that side. It will be seen by the plan that the west end is not at right angles with the side walls, but following the line of the street. The west window is a late insertion. The upper part of the tower has been restored, including the parapet and pinnacles.

COMPETITION DESIGN FOR BATTERSEA FREE LIBRARY.

IN a notice of the designs sent in for this competition, published in the *Builder* for November 10, 1888, we mentioned that by Mr. Walter F. Lyon as perhaps the most picturesque of the series in regard to its exterior treatment. The accompanying illustration shows the principal elevation of this design.

ENGINEERING IN A SANATORIUM.

THE amount of machinery that is required for the daily economy of a large first-class hotel would surprise a good many people not accustomed to modern arrangements. What with hydraulic-lifts, electric lighting, steam laundries, and other requirements, the engineering department is often one of considerable importance. Sometimes, as in the case of the Hotel Mont Dore at Bournemouth, the mechanical features are still further increased by the pumping-machinery required for the very complete set of medical baths which form the leading feature of the establishment. As the Mont Dore arrangements have just been remodelled, and the proprietors have taken the best advice that could be got on the various subjects, a brief sketch of the mechanical details may be of interest.

The machinery department here, as in all other large hotels with which we are acquainted, is beneath the ground level. Here it has a floor to itself, under everything else, quite in the bowels of the earth, and a good deal of ingenuity has been expended in the endeavour, which appears quite successful, to keep the vibration and noise of working from affecting the dwelling part of the building above. The first place we enter on descending to the machinery department is the boiler-room. Here there are three boilers, two of the ordinary Cornish type, 10 ft. in length, and 4 ft. 6 in. in diameter. These formed the original source of steam supply, but in consequence of the recent additions, a new Babcock & Willcox boiler has been put in, and it will afford some idea of the power required in the establishment by saying that there are 750 square feet of heating surface, and 20 square feet of grate surface, yet it is only by hard firing that sufficient steam can be generated. This boiler can be pressed to 120 lbs. The Babcock & Willcox boiler is of the water-tube variety, and for this reason it is especially suitable for placing under the foundations of an hotel, inasmuch as it is safe from violent explosion, such as an ordinary shell-boiler of any kind is subject to if not properly looked after.

In the boiler-room are two steam salt-water-heaters, consisting of cylindrical vertical vessels 6 ft. high by 3 ft. in diameter, containing copper volute coils. The steam circulates in the coils, the water to be heated passing in the opposite direction. In this way the steam at its hottest meets the water at its hottest, and the highest efficiency practicable is obtained. The water is pumped up from the sea, the hotel having a special main laid down for the purpose. There is a good arrangement for equalising the temperature of the water used for the baths, which has been devised by Mr. Cope, the engineer to the establishment. The water, as it is heated, rises by convection to the top of the building, where a tank is placed for its reception. From this tank it is distributed to the various baths. Fitted to the tank is an expansion pipe, which is so arranged as to be brought into play with variation in the temperature of the water. In this way a constant circulation is kept up by natural means, and hot water flows in lavatories, baths, &c., immediately a tap is turned on, without having to wait, as is usually the case, for the water that has become cold to run out of the pipes; whilst, at the same time, a given temperature is never exceeded. The latter is a most important

point in dealing with invalids, for it is well known that serious consequences have followed in some instances through delicate persons being scalded through the water getting over-heated. There is also the possibility, under ordinary conditions, of getting steam in place of hot water in the pipes; but this, of course, is prevented by the expansion system described. Steam at 40-lbs. pressure is used for heating purpose; but, as the boiler pressure is generally about 100 lbs., a reducing valve has been applied. It would be difficult to give a description of this ingenious device without illustrations, but those who are interested could, doubtless, get particulars from the Babcock & Willcox Company, who supplied this fitting. Mr. Cope has also so arranged that any section or series of pipes can be throttled or closed at one spot near the boiler, so as to have the whole arrangements under one hand. There is a steam drum receiver, and the various cocks for the purpose are actuated from the boiler front. This is a point that also requires some consideration, as various steam pressures are required in certain of the medicinal bath processes; for instance, a low pressure in the inhalation-rooms, with perhaps a higher pressure due to the increased temperature necessary for the Russian baths, or higher still in the case of the Siberian bath.

It is not within our province to describe the arrangements necessary for the various baths. Some of the mechanical details for "pulverizations," "irrigations," and "inhalations" are very cleverly worked out, and we believe it is a pretty well acknowledged fact that the system of baths here is more elaborate than any elsewhere.

The boiler-feed arrangements are worth attention. There is a Worthington pump which can draw from a tank in connexion with the town service, or from a well in the grounds. This well is more than sufficient to supply all the wants of the establishment, there being at all times a plentiful supply of pure water. There is a second Worthington pump used for ordinary work, and this can be applied for feed purposes by making a simple change; there is also an injector. In addition to this, the town pressure of 70 lbs. can be used if the boiler pressure be lowered sufficiently. All pipes are duplicated for alternate service of well or town water. As the machinery is below the level of the sewer a steam pump is provided for lifting condensed water, or boiler washings, &c., to a drain provided for the purpose. There are also other pumps for various purposes in connexion with the swimming-bath, laundry, and domestic necessities.

In the hydraulic pumping-house there are, first, a pair of ordinary vertical inverted engines with 5-in. cylinders and 10-in. stroke. These work a three-throw horizontal pressure pump, worked through spur gearing. These are in connexion with the accumulator, which is loaded to 700 lbs. to the square inch. The automatic stop consists of the ordinary striking gear worked by the accumulator. This installation has been supplemented by a fine set of hydraulic pumping engines of the "Duplex" type, which have been specially designed and manufactured for this work by Messrs. Archibald Smith & Stevens, of Queen's-road, Battersea. There are two horizontal steam cylinders, placed side by side, of 7 in. diameter, the stroke being 6 in. The pumps are of the bucket-and-plunger type, with valve-boxes overhead giving equal delivery on both outward and inward strokes. The automatic stop is quite new, and of very ingenious design,—this being, we believe, the first instance in which Messrs. Archibald Smith & Stevens have applied the arrangement. There is a differential plunger, the small end of which is in connexion with the accumulator, by means of a suitable pipe, so long as the latter is pumped up to its full height. If the accumulator fall, a valve is closed automatically, and, at the same time, the water pressure is released, and this allows the plunger to rise. When the latter operation takes place the plunger is lifted from a loose valve placed in the steam service, and in this way the steam pressure lifts the valve, and steam passes to the pumping-engine. It will be seen, therefore, that when the accumulator is at the top of its travel steam is shut off from the engine, but with the descent of the accumulator steam is admitted.

There are two lifts serving all floors, also supplied by Messrs. Archibald Smith & Stevens. In the principal passenger-lift the car is very handsomely decorated, the panelling being in hard wood, highly polished. It is to be illuminated by electric light. The lift is of the suspended type, and has hydraulic cylinder and safety-gear, as illustrated and described in the *Builder* for March 31 last. The ropes are anchored to the cylinder by a spring-connection, so as to remove all vibration, and, indeed, the cage travels with remarkable steadiness. The goods-lift is of the same general design, except that there is a plain luggage-box in place of a car. Of the lifts for ordinary purposes it is unnecessary to speak.

Passing over various other mechanical details, we will now take the electric-light department. In the engine-house there is a pair of vertical compound engines, with $7\frac{1}{2}$ in. and $12\frac{1}{2}$ in. diameter cylinders by 10 in. stroke. The engine is mounted on the same bed-plate as the dynamo, the driving being effected by Raworth's friction-gear, in which the dynamo is mounted on trunnions. The arrangement allows of increased speed being obtained on the machine without occupying the space required in belt-driving. It is said to give great satisfaction in practice, there being no slipping, and at the same time little weight on the bearings,—a point of great importance at the high speed at which dynamo-machines have to be worked. The electrical accumulators are placed in a house built for the purpose in the grounds adjoining.

A word may here be said about the arrangements for preventing the noise and vibration of the machinery from passing to the hotel above. Of course it is impossible to get an ordinary double-acting engine to work at the speed necessary for electric light work without jar and with perfect silence. As a matter of fact, the engine in question was far from silent, there being a considerable knock on the crank-pin brasses, a defect which will doubtless disappear after a little running. The dynamo-room and engine-house, it should be explained, are beneath the drawing-room of the hotel, a very undesirable place in which the jar and rattle of machinery should be heard. In order to prevent this, the wall of the engine and dynamo-room have been made double, there being an air-space of about 3 in. left between the walls. In addition to this, 4 ft. of earth has been filled in above the top of the room. The result is that the engine may be run, in spite of the knock, without the most sensitive person in the drawing-room being disturbed. It should also be mentioned that Messrs. Smith & Stevens have fitted silencing-nozzles, which are, we understand, of a new design, throughout the hydraulic service,—an example that could be followed with advantage in some other hotels. There is nothing more startling to the ordinary individual of nervous temperament than the unexpected ramming of water in pipes.

We had intended to say something about the details of the heating, fire-extinguishing, and electric-bell arrangements, which are in some respects novel, and about the wiring of the house for lighting. Some of the details of the kitchen service and laundry appliances are also worth mention, but we have not space to notice them. With regard to the important question of drainage, there is not much to say, Mont Dore being as happy in this respect as the nation which has no history. It may be mentioned, however, that in remodelling the establishment the present proprietors placed the whole of the sanitary arrangements in the hands of Jennings, of Stangate, which is a pretty good guarantee that everything possible has been done.

The most recent, and, perhaps, the most notable engineering,—or ought we to say architectural?—feature about the place is the new covered lawn-tennis court and winter-garden. This sprung from a happy thought on the part of the management to convert the not very ornate flat space above the baths into something useful and ornamental. The building is of iron and glass, and covers a space of 115 ft. × 100 ft. One would imagine from an inspection of the baths that Mont Dore must be one of the most melancholy places imaginable to stop in; more like a hospital than a hotel. But such is by no means the case, and whatever ills the people may be suffering from they manage to keep pretty much to themselves. The enthusiasts of Bournemouth tell you it is the sand and pine woods that make the invalid in Bournemouth quite a different creature to the invalid anywhere else. However this may be, the ball never ceases to bound in the Mont Dore courts, and it seems to be quite regular to take a parallel course of tennis and Turkish baths. The court is said by experts to be perfectly laid, and the lighting by incandescent lights leaves nothing to be desired; indeed, so good are the arrangements, that Mr. Ernest Renshaw, the amateur champion, now plays, talks, and dreams tennis at Bournemouth, instead of on the Riviera.

ASSOCIATION OF PUBLIC SANITARY INSPECTORS OF GREAT BRITAIN.

AT a recent meeting of this Association, held at the Westminster Town Hall, Mr. Hugh Alexander, the Chairman of the Council, presiding, Mr. E. Tidman, C.E., read a paper on "The Drainage By-laws as administered under the Metropolis Local Management Acts." In comparing the powers given by the Acts of 1855 and 1862 to Metropolitan Local Authorities, and by the Public Health Act of 1875 to the Urban Sanitary Authorities, the lecturer arrived at the conclusion that the powers conferred in the two cases were practically identical. The question was then propounded, Why is London more than a quarter of a century behind many of the provincial towns in its administrative dealings with sanitary matters? In order to find the proper answer, the lecturer had procured from the Metropolitan Board of Works, and from as many as possible of the Vestries and district Boards of the metropolis, copies of the by-laws which the Acts give power to make for dealing and regulating the plans and levels of sites for buildings, and for regulating the dimensions, form, and mode of construction, and the keeping, cleansing, and repairing of the pipes, drains, and other means of communicating with sewers, and the traps and apparatus connected therewith, for the emptying, cleansing, closing, and filling-up of cesspools and privies, and for other works of cleansing, and of removing and disposing of refuse, and for regulating the form of appeal and mode of proceeding thereon. In those supplied from the Metropolitan Board he found not a single clause regulating the construction of house drains, but only clauses relating to the construction of new sewers, and notices, plans, &c., for making sewer connexions; and in those supplied by other local bodies he found an utter lack of uniformity, as well as, in the majority of cases, an entire absence of regulations for the construction and laying of house drains. Among the thirty-nine metropolitan districts, only six had fairly comprehensive by-laws, and in those which required plans drawn to scale of proposed drains to be presented to the respective Boards, the scales prescribed varied from one of 8 ft. to the inch, to one of 44 ft. to the inch, no scale at all being prescribed in fifteen of the districts. The details regulating the size of drains, the class and position of fittings, and other necessary works, varying in almost every district, rendered it exceedingly difficult for surveyors, architects, and builders, with a general business in all parts of the metropolis, to comply with them, for what in one district was allowed, in another was not; officials in one district would test the drains with water; others never looked at a single foot of the drain; some liked 2 in., some 4 in. vent-pipes, and others specified none at all. As a consequence, the whole thing was improperly managed. Drains bad in principle and workmanship were daily and hourly allowed to be laid, and deadly and defective fittings were put into houses at the sacrifice of the lives of the unfortunate occupants. It was very nearly correct to say, as had been said by one member, that London was fifty years behind the provinces in sanitation, for the great drainage schemes of Sir Robert Rawlinson had been promulgated in 1845, and yet it was true to-day that a great number of the metropolitan bodies charged with sanitary duties had no regulations complying with the two great elementary requirements of perfect sanitation, which Professor Field gave as: (1) the immediate and complete removal from the house of all foul and effete matter directly it is produced; (2) the prevention of any back current of foul air into the house through the pipes or drains which are used for the removal of the foul matter. The conclusion arrived at, therefore, was irresistible; and a heavy indictment, the author said, lies "against the Metropolitan Board of Works for not putting into force the powers conferred upon them by these Acts, an indictment in which the charges made and substantiated before the Royal Commission were trifles, for how many innocent and valuable lives had been sacrificed through their neglect! The scandalous sanitary defects now allowed to be daily and hourly perpetrated, and perpetuated

by the moribund Board and the local authorities, in the construction of drains and sanitary works within their area cried aloud against them, and none knew better than sanitary inspectors in the metropolis the nature and extent of these defects; yet they were powerless to remedy them. The Vestrymen and District Board members were too much interested in the perpetuation of these crying evils and foul whited sepulchres, and the inspectors could not work as independently as they should be empowered to do, to compel the removal of fever and death-producing atmospheres from our midst." Among other suggestions offered for dealing with new property were the following, most of which had, to the lecturer's certain knowledge, been in force in the provinces for twenty five years. There should be a correct plan of every house-drain in the metropolis; plans in duplicate, to a uniform scale, should be submitted for all new drains or alterations; the plans should be sealed by the Boards and numbered, one copy being filed, and the other returned to the applicant; certificates, also in duplicate, should be issued by the surveyor when the work had been satisfactorily carried out in strict accordance with the approved plan; using a false certificate, or occupying a building as a residence or workshop, without the possession of such a certificate, should be deemed a penal offence; and with respect to plans not approved, information should not be refused, as had been the custom of the Metropolitan Board of Works, but should be freely furnished to enable the plans to be amended as speedily as possible, in accordance with the wishes of the Board, as was the practice in the provinces.

"I am looking forward with anxiety and interest," said the lecturer, "to the new County of London Council and their proceedings, and trust when they take over the duties of the defunct Metropolitan Board, they will at once take in hand the consideration of the Metropolitan Drainage Regulations, and prepare, from the Local Government Board model, a complete set of by-laws for the metropolis,—altered, of course, to suit the teachings of modern sanitary science. If they do, and also get powers to deal with the old property, which cannot, I am afraid, under the existing laws, be improved except under the Nuisance Removal Clauses, which are, I regret, put in force to a very slight extent, the death-rate of London will be reduced to 12 in 1,000, and diphtheria, scarlet fever, and other sewer-generated and preventible diseases will vanish practically from our midst."

With respect to old property, from which chiefly the sewer-gas poisoning and the atmosphere of death was developed, he suggested that more stringent powers for dealing with it should be obtained from Government, and that to obtain this they must all bring their united influence to bear. The old property could, however, be dealt with under Clause 74 of the Metropolis Local Management Act (1855), if it were only acted upon universally. In concluding his paper, Mr. Tidman summarised the recommendations of Professor Robinson, given in his address to the Sanitary Institute, supplementing them with some rules of his own, of which the following are the principal:—

That all drains passing through houses should be embedded in 6 in. at least of good concrete all round them.

That all drains should be so laid that there is an efficient air-flush through the whole system.

That no vent-pipe should be less than 4 in. diameter, and that it should invariably be so arranged that it is carried up perpendicularly, and have no cowl at its outlet of any description to prevent free passage of air.

That no inlet-vent be allowed at the foot of soil-pipes or on surface-level, but that all inlet vents be fitted with non-return valves, except they are carried up above highest window.

That, as far as possible, the air-flush and water-flow be in the same direction.

That all cisterns be covered.

That all rooms have two openings for ventilation, not more than 6 in. below the ceiling, fixed at opposite sides to secure circulation, and that the area of each be not less than 1 ft. superficial.

The chairman, in inviting discussion, regretted that so little general interest was taken in the election of Vestrymen in the metropolis; that they were practically appointed without having the salutary influence of public opinion brought to bear upon them; and, as there was a good deal of human nature in the London Vestryman, he could not be prevented from getting his relations into positions which could often be more efficiently filled by others.

Mr. Hearn (Paddington) proposed a vote of thanks, which was supported by Mr. Jerram, A.I.C.E., Mr. Colston, Mr. Richards, Mr. Fairchild, and other members, some of whom took exception to the proposal to put a 6 in. bed of concrete around drains passing through houses, while others of them warmly supported the proposition. The vote having been accorded by acclamation, Mr. Tidman replied. The chairman announced that in consequence of a proposal to mark in some special way the attainment of the age of ninety years of their venerable President, Mr. Chadwick, the annual dinner, fixed for the 2nd of February, might be postponed to the middle of the month, to give time for the committee to mature their plans, and the proceedings then closed.

THE ARCHITECTURAL ASSOCIATION.

THE seventh meeting of this Association for the present session was held on the 18th inst., in the meeting-room of the Royal Institute of British Architects, Mr. Herbert D. Appleton (President) in the chair.

The following new members were elected, viz., Messrs. T. Moore, C. E. Lee, F. E. Rhodes, S. W. Whitmore, C. O. Law, and G. Vernon.

The Hon. Librarian announced the gift to the library of a book on Building Construction by Mr. F. F. Mitchell, and a vote of thanks was accorded to the donor.

The Chairman stated that, in consequence of some portion of the Birmingham Association's rules not being quite in accord with those of the Association, they were unable to take up the subject of the affiliation at that meeting. The matter would be adjourned to the next meeting, and in the meantime the rules would, as promised, lie on the table of the reading-room.

The Chairman said he regretted that Mr. Radford, who was to have read the paper for the evening, was unable, through ill-health, to be with them. They were, therefore, very much indebted to Mr. Hooper, who had come forward to fill up the gap (applause).

Mr. Francis Hooper then read a paper entitled, "Some Notes on Architectural Education and Practice in France," which we print *in extenso* in other columns.

Mr. R. Phené Spiers, in opening the discussion, proposed a vote of thanks to Mr. Hooper for giving them the result of his researches in Paris. Mr. Hooper, as they knew, had been a holder of the Bursary founded some years ago by Mr. George Godwin,* with the desire of calling attention somewhat more to the practical than to the artistic side of the profession. The value of the Godwin Bursary had been shown by the number of papers that had been read, or had come, before the Institute, regarding what had been learned by the holders of the Bursary during their travels. To give a description of the training one had to go through in the *École des Beaux Arts* would take up too much time. It would be better to endeavour to find out the principal advantages and disadvantages of the French system. The great peculiarity in the French *atelier* was the competition for the Grand Prix, which sent the successful student for five years to Rome, and on his return provided him with some honourable employment for life. It naturally followed that the competition for such a prize was a brisk one, and entailed the studying for a longer period than was the custom in England, so that the winner of the Grand Prix was often a man of thirty, who had been earning his livelihood for ten or twelve years in architects' offices. The fact of so many students working at the same time for the Grand Prix brought them into contact with men of considerable ability. The younger students assisted the older ones in the preparation of their designs, and were termed "niggers," the only return being given in cigars and drinks, besides the advantage of having the friendship and advice of the senior men so assisted. Then, again, in the *atelier* the young student not only obtained the advice of the professor during his periodical visits, but also that of the senior students for whom he had worked. Mr. Hooper had hit upon one of the defects of the French school as compared with the English school. The French student derived his information chiefly from books and drawings, and not from actual buildings; but the great advantage gained by the English student was that the greater part of his design was done from the study of buildings, while the making of perspective drawings also gave him a better idea than the French elevation drawings did of what the effect of the buildings would be. For Classic buildings, forming the side of a street, or at the end of an avenue, the French method might be the best for producing a good result; but for buildings to be seen all round, and on all sides, the only way in which they could be judged of properly was that they should be done in perspective. The French architect had to take out his quantities and pay the clerk of works out of his commission of 5 per cent., but he was saved a great deal of work in detail drawings, for he was permitted to choose his own contractors. The contractor made all the drawings for the ironwork throughout the buildings, and somewhat the same thing would be done with the woodwork by the contractor, who knew about such things much better than the architect. The *architecte-expert* was a man who not only made a great deal of money, but who was also much esteemed by the architects themselves.

Mr. H. Lovegrove seconded the vote of thanks. The need of business experience, he said, was a most important element in professional work, and one could hardly conceive a young man starting in practice without having acquired some business experience, which could only be gained by the office work which a pupil in this country had to go through. Temporary assistance was not unknown in the architectural profession here, but, as a rule, it came in when competitions were about; and for quantity-taking temporary assistance was almost the rule. The assistance given by the elder men under the French system struck him as being a capital thing. Length of study had always been a very important factor in the education of an architect in France. Sir Gilbert Scott once remarked in that room that architects in England were too apt to take down the shutters before they had anything in the shop; and there was no doubt that many practitioners did start for themselves too early, the consequence being that they were compelled to let building-land, or to take out quantities for a living (laughter). Decorative art, too, seemed to be much studied in France, while in England it was greatly neglected. He understood the French architects took out their preliminary quantities somewhat in the form adopted in Scotland, but it must be rather awkward if they had to pay the fees themselves.

Mr. C. H. Brodie considered that the academic education in Paris must give a man very little business experience, and he would like to know how the latter was obtained? One thing which struck him in France was the way in which the elder men helped each other, and the apparent absence of business jealousy. He remembered seeing nine or ten architects in one of the suburbs of Paris, who dined together daily at a certain hour, sitting always at the same table, and discussing professional questions. The *architecte-verificateur* was a man in general practice, who had to deal with the somewhat complicated bills of the French workmen, and, if necessary, ruthlessly cut them down. It was interesting to know that the civil code in Paris defined the position of the architect and of the contractor in case of accident to a building.

The vote of thanks was then put to the meeting, and cordially received.

Mr. Hooper briefly replied. He said he considered that the architect's education ought to be rather a costly one to himself than that it should come out of the pockets of his clients. With regard to the French architects working together, he could not but think that the military education, to which every Frenchman was subjected, had a great influence in enabling men, whether architects, painters, mechanics, or what not, to work together much more methodically than was the case in this country.

* For many years Editor of the *Builder*.

The lecture on "Bricklayer" will be given on Tuesday next, the 29th instant, at 6.15 p.m., instead of on Friday, the 25th, as previously announced.

Presentation to a Borough Surveyor.—On Saturday last Mr. E. W. Harry, C.E., late Borough Surveyor of Harrogate, was the recipient of two testimonials from the officers and workmen in the employ of the Corporation. The presentations consisted of a set of silver-plated epergnes, cruet-stand, and illuminated address. The former was the gift of the officers and the latter the gift of the workmen. Mr. W. H. Wyles (Town Clerk) presented the testimonial of the officers, and Mr. W. Burkinshaw (mechanic) that of the workmen.

ARCHITECTURAL SOCIETIES.

Birmingham Architectural Association.—On Tuesday last a paper was read before this Association by Mr. F. R. Farrow, A.R.I.B.A., on the subject of the Examination in Architecture and the necessary preparation therefor. Mr. Farrow gave a short sketch of the character of the Examination as at present constituted, and spoke of the probable form of the Examination now under the consideration of the Institute. Turning to the preparation for the Examination, Mr. Farrow advised students to avoid attempting to get the necessary work done in too short a time, and laid stress on the value of practice in making rapid and accurate sketches of details, both ornamental and constructive, and of combining such sketches with the notes made in reading. He pointed out the value of the History, Quantity, and Construction Classes held by the Association, as giving a basis of study, and of the Class of Design as affording practice in the class of work required for the Examination. A discussion on the paper was opened by Professor R. H. Smith, M.I.M.E., Assoc.-M.Inst.C.E., who dwelt on the advantages to be gained by a systematic course of practical study, which should, he thought, include a certain time spent in learning the hand labour of the principal building trades, as well as a course of laboratory study of the results of actual experiments on materials and structures both as to their chemical and constructive characteristics. The discussion was continued by Messrs. C. E. Bateman, J. Cotton, W. N. Gething, W. G. Mantle, and V. Scruton, and was closed by a vote of thanks to Mr. Farrow for his able paper, proposed by Mr. T. Naden, President, and seconded by Mr. H. R. Lloyd, Secretary. In replying to the vote of thanks, Mr. Farrow pointed out that it would necessarily be some time before the new Examination could be in working order, and that even then the present Examination must be continued for some years. At the same time he also said that it was the desire of the Board of Examiners to hold the Examinations at local centres, whenever sufficient candidates were prepared to come forward. In reply to some strictures on the shortness of the time allotted to designing, Mr. Farrow pointed out that the design asked for did not usually contain any difficulty of plan, and he assured the meeting that some of the designs produced were of high merit and very fully worked out.

Leeds and Yorkshire Architectural Society.—Mr. Reginald T. Blomfield, M.A., A.R.I.B.A., delivered a lecture to the members of the Leeds and Yorkshire Architectural Society on Monday evening on "Architects of the English Renaissance." Mr. Perkin, the President, was in the chair. In the early days of the Renaissance there were, the lecturer said (we quote the report in the *Leeds Mercury*), really not architects in the sense in which we now understand the term, for they combined other work with designing. The first hundred years of the Renaissance might be divided into three periods. In the first, the Italian influence was paramount, in the second period the Dutch and German, and in the third the style was based on a combination of those prevailing in the first two periods. The first period ended about 1650. The Italian influence gradually lost ground until it was revived by Inigo Jones. This was, no doubt, largely owing to our extensive commercial relations with the Low Countries which caused the predominant influence of art in England from the reign of Elizabeth to the early part of the following century to be Flemish. Many Flemish and German architects were to be found in this country at the end of the sixteenth century, and it was most likely that many of the beautiful monuments in Westminster Abbey were designed by them. The first known architect of the English Renaissance was John Thorpe, who began to practise about 1560. Documentary evidence about him and his contemporaries is, however, scarce, and little is known of them. The lecturer then referred to other architects of the period, including the Smithsons, Holden, Stone, and Inigo Jones. The latter was the first really competent English exponent of the principles of the Italian Renaissance. He was born in 1573, and is said to have been apprenticed to a joiner. He early showed his ability in designing, and was also very skilled in landscape painting. Towards the end of the sixteenth century he paid his first visit to Italy. He afterwards went to the Netherlands, where he did work for the Court. He was thirty-three years of age when his career at the English Court commenced, and from that time until the Civil War his services were in constant demand in multifarious architectural work. It was his genius that first raised the designing of scenery and theatrical accessories to the level of a fine art. Up to the last moment of his life, Jones's restless brain was busy with fresh ideas, although the conditions prevailing during the period 1642-49 were altogether unfavourable to architectural progress. He died in 1652. The qualities of his work comprised thorough mastery of proportion, contempt for mere prettiness, and a rare distinction of style. Whatever exception might be taken to his work, no one could say that it was trivial or ignoble.

Leicester and Leicestershire Society of Architects.—The annual general meeting of this society was held on Tuesday last, when the following officers were appointed:—President, Mr. J. Tait; honorary secretary, Mr. W. Jackson; council, Messrs. J. B. Everard, J. Goddard, R. J. Goodacre, and S. Harrison. The annual report of the Council was unusually long and interesting, reviewing the progress made during the last few years in the number and influence of the provincial architectural societies, and also their utility, in the opportunities they afford for inter-communication, as illustrated last year in the defeat of the so-called "Architects', Engineers', and Surveyors' Registration Bill." The thanks of the meeting were voted to the Royal Institute of British Architects, to the Architectural Association, and to the following gentlemen:—Mr. Tait, Mr. Connon, Mr. Fulleylove, and Mr. Bidlake, for valuable presents of books, and it was also resolved that the Society should subscribe two guineas annually to the funds of the Architects' Benevolent Society.

The Sheffield Society of Architects and Surveyors.—An interesting lecture on what a local paper styles "that fine old monument of mediæval monasticism, Selby Abbey Church," was read at the monthly meeting of this Society on the 15th inst., by Mr. J. B. Mitchell-Withers, F.R.I.B.A. (treasurer of the Society). The lecture was well illustrated by drawings, photographs, and lantern-slides. Mr. Flockton, the President, presided, and there was a good attendance of members, including Messrs. F. Fowler (vice-President), C. J. Innocent, J. D. Webster, W. C. Fenton, J. T. Wheen, and others. Mr. Mitchell-Withers traced the history of this famous Benedictine abbey from its foundation by William the Conqueror in 1069, to its dissolution in 1537. He gave a careful description of the church, and enlarged on the different periods of architectural design in the various portions of the sacred building. The upper portion of the central tower was a modern debased erection, which had replaced the old one when it fell down at the end of the seventeenth century. The conventual buildings were situated to the south and west of the church, but had long since been destroyed, few remains being left to show their former magnificence. Mr. Withers quoted from interesting papers read by Mr. J. T. Micklethwaite, on the choir stalls, almeries for relics, and other original fittings, and by Mr. Fowler on the mediæval glass of the great eastern window, and concluded by an allusion to the curious ancient market-cross and monumental remains.—A hearty vote of thanks was accorded to the lecturer, on the motion of Mr. F. Fowler (vice-President), seconded by Mr. J. T. Wheen.

CASE UNDER THE METROPOLITAN BUILDING ACT.

MR. HENRY JARVIS, the District Surveyor of St. Giles's, Camberwell, summoned Mr. H. W. Lilley, of Dulwich, on the 16th instant, for having erected a shop-front on the forecourt of No. 2, High-street, Peckham (in advance of the external wall of the building), without having given notice.

The case was heard by Mr. Biron, Magistrate, sitting at the Lambeth Police-court.

The defence set up was that the shop-front was only a movable show-case on wheels.

The Magistrate, after hearing the evidence, said the defendant ought to have given notice, and fined him 1*l.*, and allowed Mr. Jarvis 1*l.* 2s. cost.

Royal Academy.—The *Times* announces that at a general assembly of Academicians and Associates, held on Wednesday evening, Mr. W. L. Wyllie, painter, was elected an Associate.

Ipswich.—On Saturday last the Ipswich Fine Art Club opened at their Gallery the fifteenth annual exhibition of the works of the members of the Club and Suffolk artists.

CHURCH ORGANS.

SIR,—It is exceedingly gratifying to find that some interest has been aroused on the question of the position of the organ in churches and its general requirements. A little friendly interchange of views between architects and organists would do much towards improving its condition, and architects may be enlightened on many details on which they have been in doubt. If I have done something towards the abolition of the "organ chamber," and to obtain its general condemnation, I shall be glad; but there are other points to be established. Mr. Lake, in his interesting letter in your issue of Jan. 12, expresses the views of an organist, on some of which it would be advantageous to discuss. Like Mr. Statham, whose reputation as an amateur organist is well known, he strongly advocates the use of pneumatic tubular action in the development of the use of the organ, and he considers that "organ 'touch' is quite independent of distance between key and pipe." The various methods of tubular pneumatic action have been brought undoubtedly to great perfection; still, in touch there generally seems to be something wanting,—a want which will, perhaps, be supplied with further improved appliances, and a sufficient mastery over an ample and prompt wind-supply. But no action, however perfect, will entirely conquer distance and the disadvantage of having the organist removed from the immediate presence of his instrument.

There is another point which must not be lost sight of when it is advanced that, by the use of electric or pneumatic action, an organ placed at the west end of a church might be played by an organist at the east end or chancel, viz., the time it takes for sound to travel. It can easily be understood how next to impossible it would be even for a cool and calculating head to manipulate with his fingers in advance of the sounds he is listening to. I fear Mr. Statham would not enjoy his finger-playing under such conditions. It is stated that the feat is accomplished by some organists, but is it wise to promote such trials of nerve and skill? How distracting it would be if, as is also suggested, he had under his control at one key-board a "powerful organ at the west end and an ample accompaniment organ at the east, divided on a screen." Instead of the acoustic difficulties being solved, it seems to me they are increased, for he would have to listen to sounds arriving from three different places. A combination-stop might make them speak instantaneously by electricity, but the sounds themselves would not reach any given point together. There is one other point on which Mr. Lake and others differ from me. The advantages given for placing the console (when not detached from the organ) partially under the pipes seems to me rather to weigh against such a position. If the organist is to be placed where he cannot hear his organ, and thus hear more of the choir, is it not likely that those who hear both will hear too much organ? The balance of sound heard by the organist will, at all events, differ from that of the congregation, and I know that in some instances this accounts for the complaint that the choir is drowned by the organ. There may be some further elucidation of this opinion, but in stating my own I do so in no captious spirit, but in the hope that useful and valuable information may be elicited from those entitled to speak with the advantage of experience and authority.

JOHN BELCHER.

5, *Adelaide-place, London Bridge,*
Jan. 15, 1889.

*** As Mr. Belcher brings me into the controversy by name, it is better, perhaps, to drop the impersonal attitude in this case. I had never forgotten the point as to the travel of sound, but not one word was said about it by any one in the discussion at the Institute meeting. Now, as Mr. Lake and I have shown conclusively (what I could get no one to believe at the meeting) that with the new methods distance makes no difference in the *touch*, the ground is shifted to the question of *sound*. Well, sound travels about 1,100 ft. in a second, so a distance of 100 ft. (all that would be required in most churches, because the player may be just outside the chancel, not in it) would only make about one-eleventh of a second, and no one would feel that much. In a very large church the large organ could be in the transept, unless we adopt Mr. Nevill's bold idea that some of the clergy will be willing to have it over the Communion-table.

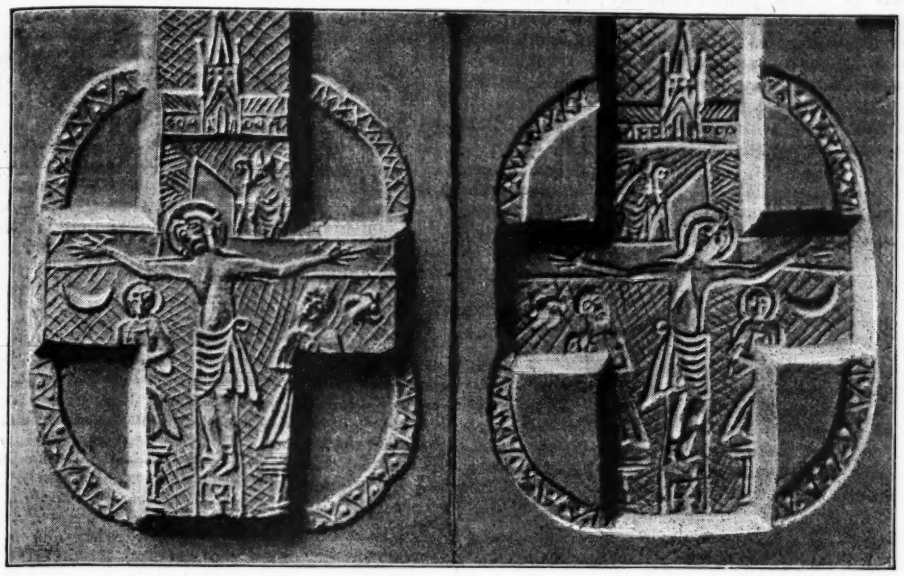
I agree that it is better not to put the organist so that he is engulfed in the organ, with the sound going over his head. He does not really know what he is doing then.

H. H. STATHAM.

HORNSEY SANITARY DEPÔT: TALL CHIMNEY SHAFT.

SIR,—The following particulars of this shaft, which I obtained when lately visiting the above works, may be interesting to many of your readers.

The shaft has been constructed for the Hornsey Local Board in connexion with their sanitary depot for treatment of house refuse, and was designed and built under the immediate superintendence of Mr.



Cast in Relief from Stone. *Ancient Incised Stone, Pirton.*

T. de Courcey Meade, Assoc.M.Inst.C.E., Engineer to the Board.

The principal dimensions are as follows:—

	ft.	in.
Total height from bottom of foundation to top of capping	244	0
Height from ground-line to top of capping	217	0
Outside diameter at ground-surface	18	3
Inside diameter at ground-surface	12	3
Outside diameter at top, under capping	8	6
Inside diameter at top, under capping	6	3

The bricks used in its construction were good London stocks, 9 in. by 4½ in. by 2¾ in., and the work throughout is laid in English bond, with Dorking lime-mortar in the proportion of three Thames sand to one lime. No grouting was used in any part of the construction.

The foundation-bed is clay 27 ft. below ground-line. On this a block of concrete was formed, 39 ft. square and 16½ ft. deep, composed of six parts Thames ballast to one of Portland cement.

The brick footings in cement are 33 ft. square at base, and built up to ground line, which is 10 ft. 6 in. from top of concrete bed, with regular offsets of 2¼ in. by 6¾ in.

The shaft proper, starting from top of footings, is built up in six sections, commencing at the base:—

	ft.	in.		
1st section	30	0	×	4 bricks
2nd ,,	34	6	×	3½ ,,
3rd ,,	34	6	×	3 ,,
4th ,,	37	0	×	2½ ,,
5th ,,	37	0	×	2 ,,
6th ,,	21	0	×	1½ ,,
7th (cap)	23	0	×	2 ,,
	217	0		

The cap portion, which is constructed in white glazed and blue Staffordshire bricks, is surmounted with a circular cast-iron capping weighing 22 cwts., cast in six segments, and bolted together by internal flanges, and forms a very good finish to this tall shaft.

A fire-brick lining, or inner shaft, is built up to a height of 60 ft., the lower 30 ft. in 9 in., and the upper in 4½ in. work set in fireclay. An annular space of 15 in. is left at the base, between the fire-brick lining and the main shaft to admit of expansion in the fire-brick. The top of lining nearly touches the main shaft, which is corbelled over to fire-brick lining to prevent any deposit accumulating in the annular space. Cast-iron inlets, 9 in. by 6 in., are provided at ground level to admit cold air, and to prevent the inrush striking the fire-brick lining; a 4½ in. brick pier, 2 ft. high, is built between the two shafts.

Two rings at the base and one towards the top, of hoop iron bonding, 1½ in. by $\frac{3}{16}$ in., are built in main shaft, about every 3 ft. 6 in. in height.

The connexion between flues of boilers and furnaces with main shaft is made by an arched flue opening, 9 ft. by 3 ft. 3 in. at the base, and a soot-door is also provided, whereby access can be obtained to the inside of shaft when required.

The time occupied in building this shaft was a little over five months, commencing in July and finishing in December, 1888. The bricklaying was continued all through the foggy weather in the latter month, the workmen having a clear light at about 150 ft. high, although they could not see the ground through the fog below.

A lightning-conductor is fixed to the shaft, composed of two copper tapes, or bands, 1¼ in. by ⅛ in., winding spirally round the outer circumference to underside of cap, where they are connected to a ring encircling the shaft, and from thence No. 6 copper rods, 1 in. diameter, are carried to a height of 4 ft. above cap, and terminating with crows'-feet ends. The tapes are joined at a distance of about 40 ft. from the base, north of the shaft, and 18 ft. below the ground-level, and terminate at a copper earth-plate, 3 ft. by 2 ft. by ½ in.

Outside scaffolding was used, and, as a testimony to the careful manner in which the work was carried out, I may state that no accident whatever occurred during the construction. Clerk of works, Richard Houghton; builder, Charles Wall; foreman, Alfred Moody; scaffolder, Richard Freeman.

The shaft forms a conspicuous landmark to the surrounding locality, and dwarfs all other similar structures for miles around. R. M. BANCROFT.

ANCIENT INCISED STONE.

SIR,—The accompanying illustration represents a photograph of a double cast from a small stone found some years ago embedded in one of the walls of the chancel of Pirton Church, Worcestershire.

That with the matrix represents the stone as now existing, and from which, according to several authorities, badges for the members of a guild were at one time cast. The stone is but a few inches in length, and the original is now in the Hastings Museum at Worcester. I have ventured to send you the photograph, partly because of the very remarkable appearance exhibited and partly in the hope that some of your readers may throw some light on the matter. HENRY LITTLEHALES.

THE LATE MR. E. N. CLIFTON.

SIR,—After reading the comprehensive and excellent memoir of the late Mr. E. N. Clifton in the last week's issue of the *Builder*, I am led to offer a few remarks upon what is therein mentioned respecting his early professional career. This I am enabled to do from my personal acquaintance with him, for we were contemporaries, and worked together in many ways for several years.

First, I would correct the statement made that "his career was commenced in the office of the late William Inwood as an articled pupil." The name here ought to be *Henry* William Inwood. The name given is that of his father, who was better known as a surveyor than an architect, and whose "Tables" were in those days a recognised authority. Henry William Inwood's office was at his own private residence, No. 5, Southampton-place, Euston-square (now No. 224, Euston-road), and to him, solely, both the late Mr. Clifton and myself were articled, as pupils, each for three years. It is due to Mr. Clifton to note that the facilities during his term of pupilage for his grounding in that special line of professional practice which he afterwards followed with such distinguished success, were scanty indeed. There was never much actual work stirring in Inwood's office; the nominal hours were easy, and both master and pupils generally followed pretty much the bent of their own inclinations. The following quotation from a letter of Mr. H. W. Inwood, addressed to my father, will help to confirm my assertion. "My office hours are from ten till four, or earlier or later, as my young men find they can conveniently be at the office."

There is one other statement in the "memoir" to which I must allude, and it is certainly an extraordinary one. I read as follows:—"During the time he served his articles he was engaged upon the drawings and works in connexion with the new St. Pancras Church in the Euston-road." The true counter-statement is, that St. Pancras new church had been actually completed and consecrated twelve years *before* Mr. Clifton entered upon his articleship, as proved by the respective dates, the consecration of the church having taken place in the year 1822, and the said articleship having occurred in 1834. J. DRAYTON WYATT.

January 22, 1889.

*** The statement about St. Pancras was made to us by Mr. Clifton's son. We ought to have verified the dates, certainly.

DETERIORATION OF FRESCOES BY GAS.

SIR,—In the interest of art and artists, allow me to call your attention to the condition of the spirit fresco in St. Peter's Church, Belsize-square. This work, which I painted some eight years ago, has been practically destroyed,—for it is nothing but a wreck,—in consequence of the want of adequate ventilation in the chancel, the south wall of which the picture principally occupies. Great gas standards have liberally supplied moisture charged with other products of combustion of a destructive character, and this has been permitted to stream down the walls, scoring my painting, as with a fire-brand, in vertical marks, where greater absorption has not allowed the moisture to collect, and blur and deface the colours in wider areas. There is but faint hope for mural painting where such influences are allowed unwatched for years to work their worst. However favourably a painting may be noticed at the time of its production, there seems to be no safeguard in England that Philistine apathy will not regard it very much as a wall-paper, and of no more consideration. Happily, Sir Frederick Leighton's work at South Kensington is illuminated by electric light, and Mr. Maddox Brown's paintings in the Manchester Town Hall are out of the reach of such chances, or they would, most likely, share the fate of my picture, for "nothing will stand gas." I quote Mr. Gambier Parry's words in a letter of sympathy to me just before his death. PHILIP H. NEWMAN.

P.S. I hear the authorities have now ventilated the chancel.

Jan. 21, 1889.

The Student's Column.

TOWN DRAINAGE.

IV.—JUNCTIONS OF HOUSE DRAINS WITH SEWERS.

BEFORE a sewer is laid in a street the premises of the houses are examined to determine the line in which every drain is to be thereafter laid from the sewer, and the point at which the drain in each case is intended to pass out through the frontage is marked upon the wall in the street.

Sewers are in all cases laid in the upward direction, and a junction-piece is inserted during the construction of the sewer, about 2 ft. short of the exactly opposite position of each mark. The same is done for the street gullies, with different marks, junctions for which are also inserted in the sewer as the work proceeds. In a brick sewer the junction-piece consists of an earthenware block, built in, its ends being square to enable it to be properly set in the brickwork, but the hole through it is oblique to the line of sewer, so as to discharge the house-sewage in the direction in which the sewage flows, thus interfering as little as possible with the current, for, if it enters at right angles, eddies are formed by its interruption of the flow of sewage, and settlement of dirt on the bottom takes place at those points, and as they are so numerous there would soon arise a considerable deposit of hard material on the bottom of the sewer. This, however, takes place to a greater extent from gully drains than from house drains, as they bring more heavy dirt; nevertheless, all junctions with sewers should be made obliquely.

In pipe sewers the junction-piece is formed upon one of the lengths of pipe, in one body with it, obliquely, as in the other case. A stopper is inserted into the socket of the junction in either case, made of earthenware an inch thick, and of a diameter nearly as large as the socket-space, to prevent dirt falling in when the sewer trench is filled up; for, although sometimes a house drain may be laid at the same time with the sewer, yet if systematically carried on it interferes too much with the road traffic, and, therefore, is better postponed until the sewer has been laid, and the surface made good for at least such a length as to allow the traffic to be turned to the other side of the road.

With regard to the diameter of the junctions for house-drains, it is usually 6 in. internally; in exceptional cases it may be 4 in., and in other exceptional cases, 9 in., but these are few, comparatively. When the stopper has been removed from the junction-piece, a circular bend-

pipe is inserted in its place of such radius as to make a bend of one-eighth of a circle in the length of the bend; the other eighth part, or 45 deg., being formed by the junction-piece. If the radius of the bend be 3 ft. to its centre line. and the length 2 ft. 4 in. on that line, the direction of the line of drain will be brought at right angles with the line of sewer, directly opposite the mark on the frontage below which the house-drain will pass. With this angle, a junction-block for 9 in. brickwork is 2 ft. long. If, instead of 45 deg.—which is the best angle—as much as 60 deg. be allowed, it shortens the length of the junction-block to 18 in., and a somewhat flatter and shorter bend-pipe is then required to bring the line of drain at right angles with the line of sewer; but more perfect work is made in the other way. Bend-pipes, however, are made in several different degrees of bend, and by a careful choice, a suitable one may be found for almost any angle: it is only necessary that the end of the bend-pipe fit closely all round the face of the opening in the junction-piece.

There are two different circumstances under which the Public Health Act contemplates that drains may be connected with sewers, the one compulsorily, the other as of right on the part of owners of houses and other buildings requiring drainage. The right which people have of connecting their drains with sewers is stated thus:—"The owner or occupier of any premises within the district of a local authority shall be entitled to cause his drains to empty into the sewers of that authority on condition of his giving such notice as may be required by that authority of his intention so to do, and of complying with the regulations of that authority in respect of the mode in which the communications between such drains and sewers are to be made, and subject to the control of any person who may be appointed by that authority to superintend the making of such communications."

On the other hand it is provided that where any house is without a sufficient drain the local authority shall require the owner or occupier to make a proper drain emptying into a sewer if there be one within 100 ft.

The distinction between drains and sewers is stated in the Public Health Act, 1875 as follows:—

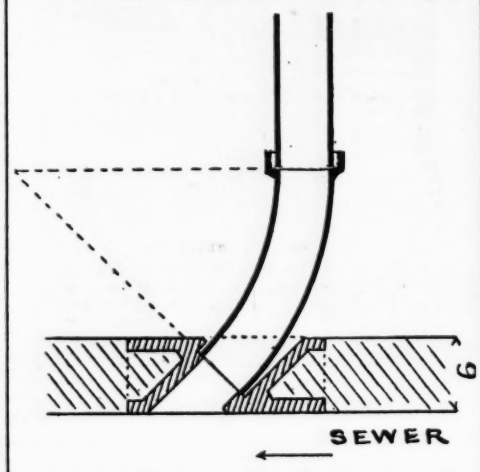
Drain means any drain of and used for the drainage of one building only, or premises within the same curtilage, and made merely for the purpose of communicating therefrom with a cesspool or other like receptacle for drainage, or with a sewer into which the drainage of two or more buildings or premises occupied by different persons is conveyed.

Sewer includes sewers and drains of every description except drains to which the word "drain" interpreted as aforesaid applies, and except drains vested in or under the control of any authority under this Act.

House includes schools, also factories, and other buildings in which more than twenty persons are employed at one time.

It may be observed that the word *drainage* is used, in the clauses here quoted, to signify sewage. We are bound by the law of the Act, but may read it rightly though written wrongly. Sewage surely must be sewage, as well before as after it enters a sewer. Naming its channel differently in different parts cannot alter its character. It will never do to call house-sewage "drainage," and even the waste water of manufactories must be called sewage, unless, indeed, it be separately treated and disposed of, which will probably not be often.

Whether, in any case, a house-drain be made compulsorily or not, notice is required to be given to the Town Surveyor, or left at his office, with a plan and section of the proposed drainage, a convenient scale of which is 8 ft. to an inch; but if the drains be of great extent, so as to make the plan and section unwieldy, the scale of the plan and horizontal scale of the section may be smaller, not being less than 16 ft. to an inch; but the vertical scale of the section should in all cases be at least ¼ in. to a foot. Notice of the intention to connect a drain with a sewer is required, because it is possible that no junction-piece may have been inserted in the sewer where it is wanted, and in that case it is necessary to prevent workmen employed by the owner or occupier of a house cutting a hole in the brickwork, or in the side or top of a sewer-pipe, for the insertion of the drain-pipe, in the hurried and inefficient manner in which it would probably be done for the sake of getting the ground filled in again as soon as possible, seeing that it is the public roadway; but although celerity of movement in such cases is admirable, it is of much less importance than sound work. In every such case a part of the sewer should be deliberately removed, and replaced with a proper oblique junction, opposite the position marked for the drain; and one of the objects in view in requiring that junctions be made under inspection is to prevent *débris*, which would unavoidably fall into a sewer during the



work, being left there. The diagram is a plan of the side of a brick sewer at the level of the junction block, at or near the springing of the arch, showing the entry of the drain at an angle of 45 deg. with the line of sewer.

Books.

Marks and Monograms on European and Oriental Pottery and Porcelain. By WILLIAM CHAFFERS. (London: Reeves & Turner.)

THIS seventh edition of Mr. Chaffers's book will delight all who love and all who collect pottery and porcelain.

Mr. Chaffers tells us in his preface that copies of previous editions of his work are seldom to be obtained at less than the published price, a fact which fully justifies the issue of the present enlarged and improved edition.

The new chapter on Japan, extending over seventy-four pages, is full of interesting information. How difficult it is to believe that the famous Cloisonné enamel was unknown in England before the Great Exhibition of 1851! And it is sad to learn that, as in so many departments of art, the works of fourteenth and fifteenth-century masters are superior to the productions of more modern date.

In the same way the products of Delft, whose porcelain-like surface was formerly decorated by painters of merit,—possibly even by one with whom Browning has thought it worth his while to hold a parleying, Gerard de Lairesse,—gradually lost all artistic merit, and, according to the Darwinian law, became extinct.

We do not notice that Mr. Chaffers mentions the modern manufacture of delft-ware by Messrs. Joost, Thooft, & Co., from which we have seen very meritorious specimens.

We should also have liked his thoughts upon some of our modern English revivals of extinct porcelain manufactures; of that, for instance, at Derby, the gorgeous decoration of whose vases so often completely conceal the material of which they are made. It is said they please the Americans, possibly, may be, in the same way in which Pope tells us his books pleased their owner:—

> "Lo, some are vellum, and the rest as good,
> For all his Lordship knows, but they are wood."

Be this as it may, we can confidently advise all who love its subject to purchase this admirable edition of an able and interesting book.

Letters from Majorca. By CHARLES W. WOOD, F.R.G.S. (London: R. Bentley & Son, 1888.)

THIS is a work of no interest from our point of view in regard to its literary matter, which seems, indeed, to be of a very superficial character; but the excellence of the illustrations is worth a word of recognition. Many of these represent architectural subjects: bits of street architecture, sketches of the exteriors and interiors of churches, and are executed with more perception of architectural effect and with a better touch and style than is usually the case in books of this class. No name is appended to them, but we understand they are by Mr. Brewer, the son of Mr. H. W. Brewer, the well-known architectural artist.

The Remedy for Landlordism, or Free Land Tenure. (London: Kegan Paul & Co., 1889.)

THIS is one of those empirical and silly books which foolish men, imagining that they are sages, from time to time publish. While every sensible person would make land as easily transferable as possible, no one who understands his subject would make changes without due consideration and careful thought. The author of this book would begin in a light and airy fashion by dividing "the whole of the British Isles into provinces (not more than a score) for home government." It would be waste of time to say anything more about a work which makes no attempt to consider the present condition of things with any thoroughness, and propounds changes as if the writer had to deal with a newly-discovered and uninhabited country.

The Co-Operative Traveller Abroad. By E. O. GREENING. London: Arthur Standing. 1888.

WE have been trying to find out why a co-operative traveller should have anything new to tell us about Notre Dame, or even of the descent in a steamboat of the Thames. So far as we have been able to discover, the co-operative traveller is not blessed with any peculiar gifts which excuse him for printing a great deal of travellers' twaddle. "The two lofty square towers [of Notre Dame], said to be 235 ft. high, look squat and short," which is not architectural criticism of the highest order.

To tell the truth, Mr. Greening would have done well not to have published this book, except the portions which relate to M. Godin's co-operative experiments at Guise. There are some interesting facts in relation to this gentleman's work, showing, for example, how he gives a due proportion of profits to labour and capital. We could hardly, however, give long enough extracts as to this point without practically taking the pith out of the entire book. As it only costs one shilling, our readers will not be ruined by buying it.

RECENT PATENTS.

ABSTRACTS OF SPECIFICATIONS.

17,674, Improved Closet-pan. F. P. and R. H. Pyne.

The external sides of the pan, which form the subject of this patent, are raised above the water-rim, and carried over the top of the pan and extending downwards towards the interior to such a distance as covers the under water-rim. A free passage of air is allowed between the side and the top of the water-rim. At the back of the pan an outlet for connexion to a ventilating shaft is formed.

1,980, Lime, Natural, and Artificial Cements. W. E. Heys.

The improvements, which are the subject of this patent, consist chiefly in burning the limestone, chalk, or slurry. The raw material, after being packed in a kiln, instead of being ignited, as is usual, at the bottom, is ignited at the top, and allowed to burn downwards. As soon as the fuel is burnt through, the eye of the kiln is closed, to prevent access of air. After cooling, the calcined material is ground similarly to cement or plaster, ground or mixed with other suitable substances.

2,482, Improvements in Water-closets. W. Bartholomew.

The improvement suggested by this inventor is in the use of a hopper-basin, under which are placed two water-seals or traps. The whole can be made in one, two, or three pieces, as desired. A small opening is made for the escape of the air. Water is supplied to the arm in the usual way, and the cistern is provided with a bent tube, one end of which dips nearly to the bottom of the cistern, and can be open or closed with a flap-valve. The action of the mechanism is to bring compressed air into action, so as to suck up the water and contents of the pan, passing them to the soil-pipe, while the after-charge provides a special flush.

2,803, Artificial Stone. J. Brunton and L. Griffiths.

The addition to the usual component parts of artificial stone is carbonate of potash and azotic or other equivalent acid, which will combine with the silicate and form an insoluble silicate of lime in the pores of the stone. The compound is pressed in moulds, and when hard can be further hardened by means of a bath of alkaline silicate.

16,069, Nail or Staple. A. Erdmann.

According to this invention, a plain flat piece of metal is first cut with pointed ends and small cor-

rugations. It is then turned over in the form of a staple, and used to fasten boards or planks when placed end to end. The corrugations serve to hold the staple more firmly in the wood.

NEW APPLICATIONS FOR PATENTS.

Jan. 8.—304, J. Sutcliffe, Window Sash-fasteners.—308, J. & T. Hill, Substitute for Plaster of Paris in use for Potters' Moulds.—354, S. Fisher, Wall Hangings, &c.—355, F. Trier, Stone-working Machinery.—368, H. Crewe, Convertible Steps and Folding Ladder.

Jan. 9.—379, W. Baker, Plastering-machines.—401, C. Elliott, Chimney-top Cowls.—403, E. Pignot and F. Durand, Chimney-cowl.—412 and 413, U. Smith, Sewerage.—420, R. Scott, Bakers' Ovens.

Jan. 10.—460, A. Johnstone, Mitreing and Cramping Wooden Mouldings.—463, M. Syer, Ball Valve.—469, G. Fry, Warming and Ventilating Churches, Houses, &c.—482, J. Tollerton and J. Darnley, Safety Fasteners for Doors and other Exits of Theatres, Buildings, &c.—495, F. Carter and others, Combination Nail and Screw.

Jan. 11.—512, J. McPlinn, Mortising-machine.—515, A. Day and F. Green, Window Sash-fasteners.—517, S. Hazeland, Wood-planing Machines.—522, J. Barlow, Raising and Lowering Windows.

Jan. 12.—581, J. Walker and T. Pogue, Lighting Dwelling-houses, Public Buildings, &c.—589, J. Kemsley, Ventilating Apartments, Buildings, &c.—624, C. Thode, Automatic Door Hinge and Check.—638, G. Jennings, Valves for Water-closets.—639, G. Jennings, Water Waste-preventers for Water-closets.

PROVISIONAL SPECIFICATIONS ACCEPTED.

16,004, P. Mugford, Securing Tiles in Fire-grate Jambs.—16,285, J. Nicholls, Window Sash-holder, with Burglar-proof Bolt.—16,710, H. Norris, Imitation Stained Glass, &c.—17,250, T. Edwards, Fire-escapes and Ladders.—17,372, G. Stephan, Movable Timber Sawing-machines.—17,545, S. Jennings, Hermetically closing Orifices of Pipes, &c., in Connexion with Drainage, &c.—17,966, C. Saunders, Scales for Use in Enlarging or Reducing Plans, &c.—17,995, J. Hewison, Set-square.—18,038, J. Strachan and J. Alefleet, Securing Sash-lines to Sashes.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

136, F. Weber, Hot-air Drying and Heating Apparatus.—1,893, S. Ridge, Door-springs.—2,191, J. Gillingham and W. Hodgeson, Cutting Mitres with Tenon-saw, &c.—3,012, S. Hillyer, Ventilating Discharge-pipes or Passages in Connexion with Water-closets, &c.—3,085, H. Smith, Securing Handles on Door-spindles and Releasing them when necessary.—3,155, J. Lewen, Rain-water, Drain Pipes, &c.—3,344, W. Beames and J. Madeley, Flushing Cisterns.—3,680, D. Pugh, Sanitary Traps.—3,695, R. Roberts, Prevention of Down-draught in Chimneys.—3,882, J. Breeden, Flushing Water-closets, &c.—4,182, R. Harrison, Opening, Closing, and Adjusting Fanlights, &c.—4,409, C. Brothers, "Hit-and-Miss" Ventilators.—4,581, P. Ayton, Casement and other Stays.—4,837, L. Cochepain, Tipping Carts, &c.—6,103, C. Brothers, "Hit-and-Miss" Ventilators.

RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

JAN. 15.

By DEBENHAM, TEWSON, & Co.

Mile-end—7, Lincoln-street, freehold	£500
Freehold rent charge of £35 a year, from the Isle of Wight Railway	950

By GEO. GOULDSMITH, SON, & Co.

Eccleston-square—No. 12 and stabling, 38 years, ground rent £40	2,950

By WAGSTAFF & WARMAN.

Hornsey Rise—"The Railway Hotel," 76 years, ground-rent £50	910

JAN. 16.

By WARD & CLARKE.

Lambeth—155, 157, and 159, Waterloo-road; 26 and 28, Webber-street; and 1 to 7, Cottage-place, 22 years, ground-rent £42. 1s.	1,125

JAN. 17.

By NEWBON & HARDING.

Stoke Newington—104, 114, and 115, Albion-road, freehold	1,505
Hoxton—3, Napier-street, 13 years, ground-rent, £2. 10s.	135

By F. J. BISLEY.

Rotherhithe—262, Rotherhithe-street, freehold	415
2, Aspenden-road, 64 years, ground-rent £4	340
14, Warndon-street, 67 years, ground-rent £2 10s.	270
8, 10, and 12, Warndon-street, 67 years, ground-rent £12	635
38, 40, 42, and 44, Westlake-road, 67 years, ground-rent £16	690
New Cross—27, Casella-road, 68 years, ground-rent £5	340
Lessness Heath—37 and 38, Woolwich-road, freehold	370
39 and 40, Woolwich-road, freehold	385
41 and 42, Woolwich-road, freehold	455
Ground-rent of £4, reversion in 63 years	120
Ground-rent of £5, reversion in 63 years	120
Bermondsey—13, Lockwood-road, 56 years, ground-rent £3. 10s.	265

Mr. J. Douglass Mathews has been elected Surveyor to the Tallow Chandlers' Company.

MEETINGS.

SATURDAY, JANUARY 26.

St. Paul's Ecclesiological Society.—Annual Meeting. 2.30 p.m.

MONDAY, JANUARY 28.

Royal Institute of British Architects.—Public Presentation of the Studentships, Medals, and other Prizes. The President (Mr. Alfred Waterhouse, R.A.), will deliver an Address to Students. 8 p.m.

Royal Academy of Arts.—Professor Aitchison, A.R.A., on "Roman Architecture." I. 8 p.m.

Surveyors' Institution.—Mr. Josiah Hunt on "Quantity Surveyors, their Duties, Rights, and Liabilities." 8 p.m.

Society of Arts (Cantor Lectures).—Mr. Alan S. Cole on "Egyptian Tapestry and Textiles." II. 8 p.m.

TUESDAY, JANUARY 29.

Institution of Civil Engineers.—(1) Mr. J. Carruthers on "The Steep Incline on the Puerto Cabello and Valencia Railway, Venezuela." (2) Mr. R. Wilson on "The Cost of Working the Hartz Mountain Railway." (3) Mr. J. P. Maxwell on "Further Information on the Working of the Fell System on the Rimutaka Incline, N.Z." 8 p.m.

Society of Arts (Foreign and Colonial Section).—Mr. T. W. Goad on "Gold and Silver Mining in Colorado." 8 p.m.

WEDNESDAY, JANUARY 30.

Institution of Mechanical Engineers.—Forty-second Annual General Meeting, for consideration of Annual Report, and Election of President, Vice-President, Members of Council, &c. The following papers will be read and discussed, as far as time permits. (1) Mr. Thomas Urquhart on "The Use of Petroleum Refuse as Fuel in Locomotive Engines." (2) Mr. R. H. Lapage on "Compound Locomotives." (3) Mr. H. Simon on "The Latest Development of Roller Flour Milling." 7.30 p.m.

Inventors' Institute.—8 p.m.

Society of Arts.—Mr. Conrad Beck on "The Construction of Photographic Lenses." 8 p.m.

THURSDAY, JANUARY 31.

Royal Academy of Arts.—Professor Aitchison, A.R.A., on "Roman Architecture." II. 8 p.m.

Society for the Encouragement of the Fine Arts.—Dr. G. G. Zerffi on "Evolution in Art." 8 p.m.

Royal Institution.—Professor J. W. Judd, F.R.S., on "The Metamorphoses of Minerals." II. 3 p.m.

Sanitary Institute.—Professor F. Jeffery Bell on "The Worm Parasites of Human Food." 5 p.m.

Institution of Mechanical Engineers.—Annual General Meeting (continued). 7.30 p.m.

Society of Antiquaries.—8.30 p.m.

FRIDAY, FEBRUARY 1.

Architectural Association.—Mr. J. Slater, B.A., on "Artificial Illumination." 7.30 p.m.

Institution of Mechanical Engineers.—Annual General Meeting (continued). 7.30 p.m.

Miscellanea.

Ship Canal between the Bristol and English Channels.—According to the *Times* of the 19th, a scheme for connecting the Bristol and English Channels will be brought prominently before the public in the course of a few months. The route fixed upon by the engineers who have recently surveyed the district is from Stolford, in Bridgwater Bay, passing through the towns of Bridgwater, Langport, Ilminster, and Chard, to Seaton, on the English Channel. The total length of the canal will be about forty-five miles, and, with the exception of the Chard range of hills, the work of excavating, &c., for the whole distance will be comparatively easy, no engineering difficulties presenting themselves. The Chard district is formed of lias, so that, in excavating through the high ground, an ample supply of lime will be obtained, which will be useful for the other portions of the work. The canal is intended to be in every way capable of admitting the largest mercantile steamers afloat, as well as ships of war.

New Harbour at St. Petersburg.—The Russian Government, says the *Novosti*, has decided upon constructing a new harbour at St. Petersburg. It is to be situated by the Guterjero Island, and to afford accommodation for some hundred vessels, the cost being estimated at about 550,000*l.* It is to be in direct communication with the capital by rail. The Minister of Finance, on the other hand, proposes to construct the harbour at Wassilig-Ostron, where the cost will be 100,000*l.* less; but there will be no railway communication.

The Great Log Rafts.—Mr. Robertson, who last year floated the large timber raft from Joggins, Nova Scotia, to New York, has, we learn, been so much encouraged by his success that he proposes to extend his operations. He intends to form a syndicate for promoting the new mode of transporting logs to market. A raft containing about 8,000,000 ft. of timber is to be built on the coast of Washington Territory, and navigated to Valparaiso. Other rafts are to be constructed in Washington and Oregon Territories for the San Francisco market.

The Yates Professorship of Archæology. It is stated that Mr. Reginald Stuart Poole, Keeper of Coins in the British Museum, has been elected Yates Professor of Archæology at University College, London, in the place of Sir C. T. Newton, resigned.

The English Iron Trade.—The English iron market continues steady, under the influence of a well-sustained demand and a still better outlook. Pig-iron is slightly stronger. The Glasgow warrant market has been quiet during the week, but, local consumption being large, and foreign inquiry satisfactory, makers' iron has remained steady, barring a few slight changes. Middlesbrough pig maintains its quotation of 34s., pig-metal in other districts showing rather a rising tendency. In the North of England, hematite pig has advanced to 46s. 6d. for mixed parcels of iron, while in the north-west it is firm at 45s. An improvement is expected in old materials. Business in manufactured iron is still active, the higher prices previously noted being easily secured. Trade in tin-plates is quiet, due not to any absence of buyers, but rather to the firm stand of makers. Shipments of tin-plates are at present unusually heavy, last week's being amongst the biggest on record. Steel-makers are unable to meet the demand, for early delivery at any rate, of ship material. There is also a heavy inquiry for rails, but prices do not seem to move much. Shipbuilders continue booking fresh orders, and they, as well as engineers, have good prospects before them.—*Iron.*

The New Christiansborg Palace at Copenhagen.—The Royal Commission selected for considering the designs for the new Christiansborg Palace at Copenhagen, on the site of the edifice burned some years ago, have arrived at their decision, and announce that in all thirty-two designs have been received, of which seven have been found worthy of remuneration, but that only two of them can be taken into consideration in deciding upon the final design for the building, and that only as regards the leading *motif*. It is added, however, that one of the plans is distinguished by its admirable situation of the Houses of Parliament (which were to be located in a wing of the Palace), and the other by its suggestion of rebuilding the edifice as a Royal Palace alone, whereby the extent of the building would be greatly reduced, and, consequently, also its cost. The latter question is still under consideration, although the Commission has decided that the Palace and Houses of Parliament shall not be contiguous to each other, nor two separate buildings erected on the site. The Danish Parliament, it is stated, is willing to vote the money for the new buildings.

Proposed Municipal Buildings at Gloucester.—A quarterly meeting of the Gloucester Town Council was held on Tuesday, Mr. Vassar-Smith presiding. The principal subject discussed was the proposal to offer three premiums of 100*l.*, 50*l.*, and 30*l.* for designs for new municipal buildings. The Council have already purchased for 4,500*l.* Sir Thomas Rich's school property in Eastgate-street, and propose to pull down the property and erect suitable premises, including a Council Chamber and all the necessary municipal offices. This would enable them to vacate the Tolsey and the Corn Exchange, at present occupied by the Council, from which it is believed a sufficient rental could be obtained to repay the entire expenditure. Mr. Trevor Powell and others objected to the proposed expenditure as extravagant and unnecessary, and challenged the Council to submit their policy to the ratepayers next November. Mr. Peters submitted a scheme for improving the Tolsey and purchasing adjoining premises at a total cost of 7,500*l.*, as against, at least, 15,000*l.*, at which the cost of the Eastgate-street plan is estimated. On a division the proposal of the Council was carried by eighteen to eleven.

Royal Society of Painter-Etchers.—We are informed that, by an arrangement between the two societies, the next and future exhibitions of the Royal Society of Painter-Etchers will be held in the Spring of each year in the Gallery of the Royal Society of Painters in Water-Colours, 5a, Pall-mall East.

Technical Instruction in Carpentry.—The *City Press* says that the Court of the Carpenters' Company contemplate initiating a scheme for teaching in a thoroughly practical manner the art of woodwork. The money for the purpose has been placed at the disposal of the court by a liveryman.

Sanitary Stoneware and Fire-brick Goods.—Through the increased cost of coal and other materials the Midland sanitary pipe and firebrick manufacturers have issued a new list of prices, which came into operation on January 1st.

Fine Art and Industrial Exhibition at York.—It has been decided to hold "a Fine Art, Ecclesiastical, Educational, and Industrial Exhibition" at York, in the buildings and grounds of the Fine Art and Industrial Institution, from June to October, 1889. It is intended (according to the prospectus) that the exhibition shall be of a superior character, especially in respect to the quality of the exhibits, and that every effort will be made on the part of the management to exclude such articles as are not strictly appropriate to the objects of, or which might tend to lower the tone of, the exhibition. Diplomas of honour, diplomas for gold and silver medals, and diplomas will be awarded by competent jurors or experts to such exhibitors in each department or section as may be deemed entitled thereto. The jurors or experts will be empowered to award medals in addition to the diplomas should they deem the exhibit of sufficient merit. Arrangements have been made with the committee of the County Hospital (founded 1740) and the directors of the City Dispensary (founded 1788) at York, that a part of the cash receipts for admission shall be handed to those charities, thus ensuring to each institution a positive benefit from the opening until the close Exhibition. The Fine Arts Section, we are told, will form an important part of the Exhibition, and will be large and representative, including oil paintings, water-colour drawings, etchings, engravings, statuary, photographs, &c. The Ecclesiastical Section will occupy a prominent part of the great hall, forming an extensive and varied display of church furniture, fittings and decoration, textile fabrics, stained glass, mosaics, &c. In the Educational Section it is desired, among other objects, to illustrate "the application of the arts and sciences to various industries, particularly those adapted to technical education." The Industrial Section will occupy a large space in the grounds in buildings specially erected, and will illustrate a selected number of interesting trades and handicrafts in operation. Mr. Joseph Davis, late of the Anglo-Danish Exhibition, has been appointed Secretary and General Manager of the Exhibition.

Aberdeen.—The tenders for the first part of the works of the reconstruction and extension of the Royal Infirmary having been found to exceed the estimates by about 4,000*l.*, and the managers not having sufficient funds, it was resolved on Tuesday that the matter be remitted to the directors to cause the whole of the details and specifications to be scrutinised, with a view of reducing the cost. The hospital depends on voluntary contributions, and, considering that there is only 30,000*l.* in hand to meet an estimated expenditure of 39,000*l.* at the commencement, the pause of the directors is not to be wondered at. It is also reported that the Prison Authorities have found four acres of ground at Craiginches, overlooking the Wellington Suspension Bridge and the valley of the Dee, for a new prison, the old one having been condemned. Few convict buildings command such a prospect. The cost of site will be 2,400*l.*, or 600*l.* an acre, and of the buildings from 20,000*l.* to 30,000*l.* It is expected that the old prison in Lodge-walk, in the city, although unsuitable as a place for a permanent penitentiary, will be utilised as a temporary lock-up and office by the City police.

St. Michael's Church, Coventry.—In consequence of some correspondence which has lately appeared in *Church Bells* respecting the comparative sizes of our great parish churches, Mr. G. R. Webster, Clerk of the Works for the Restoration Committee, sends to that journal the following particulars, being the results of a careful survey, viz.:—

Interior.—Superficial area, including the tower	23,758	feet.
Vestries.—The ancient portion, 476 ft. ...		
The new additions, 505 ft.	981	,,
Porches.—The west porch, 90 ft.		
The south porch, 186 ft.	276	,,
Total area of the Interior	24,015	feet.

The Competition for New Houses of Parliament and a National Bank in Stockholm.—The Royal Commission appointed to draw up the programme for the competition for the new Houses of Parliament and a National Bank in the Swedish capital, to which we recently referred, have now decided that only Swedish architects can compete. There are to be five premiums for the best designs, viz., one of 350*l.*, one of 280*l.*, and three of 200*l.*, with an additional 210*l.* for the design accepted, They are to be sent in before December 15, 1889.

A New Building Estate in Upper Tooting.—A large estate, upwards of twenty acres in extent, situated on the east side of the main high road between London, Tooting, and the Merton and Wimbledon district, is about to be laid out for the erection of between three and four hundred houses. It is known as the Lower Streatham Park Estate, and for several years past has been in the occupation of Mr. Macmillan, the eminent publisher, in connexion with his mansion in Tooting Bec-road. Mr. Macmillan having just completed a costly new mansion in Hampshire as his country residence, he has presented to the Bishop of Rochester his seat in Tooting as a residence for the Right Rev. Dr. Barry, at present Bishop of Sydney, but who has accepted the office of Assistant Bishop of the diocese of Rochester. The mansion is now undergoing alterations, so as to adapt it to the requirements of the Bishop, who will take possession of it on his arrival from Sydney at Easter. The Lower Streatham Estate is situated near the centre of Upper Tooting, about midway between Balham and Lower Tooting, and has a frontage to the main high road upwards of 800 ft. in length, extending eastward in the direction of Streatham to a depth of about 1,000 ft., along which several new roads are about to be formed, approached from the main high road. A committee has been formed for promoting the erection of a new public hall, centrally situated between Upper and Lower Tooting, the want of which is much felt in consequence of the great increase of building going forward in the district, and it is expected that a site will be secured on the Lower Streatham Estate.

Public Works at Bootle-cum-Linacre.—At a meeting of the Council of the Borough of Bootle-cum-Linacre, last week, the Watch Committee of the Corporation were authorised to obtain competitive plans and estimates of the cost of a new Police Station and Court-house, to be erected on land belonging to the Corporation, adjoining the Free Library and Public Baths, and to offer premiums of fifty, thirty, and twenty guineas, for the three designs that should be adjudged first, second, and third in point of merit. The cost of the proposed buildings, exclusive of furniture and fittings, is not to exceed 8,000*l.* The Corporation have also had their attention called to the desirability of improving the means of communication between the eastern and western sides of the borough, which are separated by the Leeds and Liverpool Canal, and at present all the bridges crossing this canal are almost impracticable for the heavy traffic of the docks and warehouses. The Improvement Committee were requested to give the matter their attention, and the Borough Surveyor is to report on the best method of carrying out some improvement, either by means of hydraulic swing bridges or by the construction of new bridges with considerably improved approaches, so that a passable gradient may be obtained.

St. Stephen's Cathedral, Vienna.—For some time past signs have not been wanting that serious mischief is going on in the stone work of this building. In order to assist him with the best possible advice, the architect to the Chapter, Oberbaurath Freiherr von Schmidt, got together a committee of experts who have just published their report. They find that the copings of gables and all finials and crockets have perished to a dangerous degree, owing to the chemical action of certain inferior cements used in the joints. The roof of nave and choir is of wood, and is described as "a perfect forest," implying much unnecessary material,—so rotten and so dry that a fire would be fatal, not only to the Cathedral itself, but to all the surrounding and densely-populated property. In view of this state of things the Committee declines to trust to all the buckets, hoses, and extincteurs already provided, and advises the substitution of an iron roof. Lastly the report treats of the bells. The celebrated large one, cast in 1711, and one of the largest in Europe, has not been heard for many years, owing to the insecure state of the tower (the higher one of the two) in which it hangs, and the Committee recommends its removal to the other, hung at a lower altitude, and capable of being worked as before.

Mr. Stanford's New Premises, Cockspur-street.—With regard to this building, illustrated and described in our issue of the 12th inst., we are asked to mention that the two hydraulic lifts spoken of were made by Messrs. R. Waygood & Co.

The Fatal Fall of a Building in Birmingham.—Mr. H. Hawkes (Coroner) opened an inquest on the 18th inst. into the circumstances attending the deaths of Henry Manning (35), bricklayer's labourer, William Clewes (41), bricklayer, and Paul Poole (43), bricklayer, who died from injuries received by the collapse of a wall in Lawley-street on the 16th inst., as mentioned in last week's *Builder*. The bodies having been identified, Mr. Alexander Ross, civil engineer, Cato-street, said that he was manager for Messrs. Nelson & Company, who were contracting for the London and North-Western Railway Company to pull down certain buildings in Lawley-street, to provide for alterations required by the railway company. The contract had been sublet to Mr. Pearson, of Trevor-street. It was completed on the 1st inst., when Mr. Pearson's work ceased. Concrete had been laid on the floor of the cellars to form a foundation for the piers of a bridge. The contract for the brickwork, being the next stage, was sub-let to William Swift, of Winson-green, and he commenced work on the 14th inst. It was necessary to leave the one gable wall of the tavern standing, because it acted as a gable to the adjoining house. Swift's contract did not deal with the wall. Against the wall was a chimney-stack which had been left as a support to the gable wall. At eleven o'clock on the morning of the accident Swift told witness that he should have to remove the chimney-stack to make room for the pier. Witness told him that it could not be removed, and that he would not take the responsibility of undertaking the work. Swift said he thought it would be safe, and witness then left. Replying to the Coroner, witness said he believed the words he used were "You must not remove it." The Coroner here remarked that it was his intention to adjourn the inquest, and asked the legal gentlemen present if under those circumstances they proposed to reserve their cross-examination of the witness until the adjourned meeting.—After a short consultation it was agreed to adopt the course suggested by the coroner. Charles Collins, Hope-street, said that he was passing down Lawley-street at ten minutes to twelve on the morning of the accident. He saw Swift standing near the chimney-stack, and there were some other men standing near whom he knew. Two of the jambs of the stack had been cut through, and he heard Swift tell one of the men to knock away the lower portion of the stack with a sledge-hammer. The man commenced to strike the sides of the stack with a sledge. Witness noticed that it looked like falling, and calling out to the man "Don't strike again, or it will be down." The man struck while he was speaking, and the structure collapsed. Witness, seeing that some men must have been hurt, went for assistance, and the men were taken to the General Hospital. The men were about 15 ft. or 16 ft. from the stack. He saw Swift afterwards, and said to him, "You are the man who caused those men's deaths," and he made no answer. The inquiry was then adjourned until the 29th inst.—(*Condensed from report in the Birmingham Daily Gazette of the 19th inst.*).

New Printing Offices at Leicester.—On Saturday evening last, the combined staffs of the *Leicester Daily Post*, *Daily Mercury*, and *Chronicle and Mercury* were entertained at dinner by the proprietors, Messrs. Hewitt & Son, in celebration of the completion of the new offices in Albion-street. Mr. Hewitt presided, and the vice-chairs were occupied by Mr. F. Hewitt, jun., and Mr. Thomson. The guests numbered seventy. Referring to the new building, Mr. Hewitt said he thought they would all agree with him that it was exceedingly satisfactory and admirably adapted for its purpose. A great deal of time had been spent by Mr. Jackson, the architect, and others, who had been most painstaking in securing that the arrangements should be as convenient as possible. He did not believe there were many provincial newspaper offices in Great Britain or Ireland which excelled it—(cheers)—and he wished to express his obligations to the architect, to Messrs. Herbert, the builders, and to all the contractors, for the faithful and satisfactory way in which they had done their work.

Dissolution of Partnership.—Mr. S. Stevens Hellyer, writing from 21, Newcastle-street, Strand, informs us that his friend Mr. Dent, owing to weight of years, has retired from the partnership which for a long period has subsisted between them. The business will be continued by Mr. Hellyer alone, under the style of "Dent & Hellyer."

The New Railway Station at Vauxhall. After taking between four and five years in execution, the doubling of the London and South-Western Railway from Waterloo to Vauxhall is now approaching completion, and preparations are making for the rebuilding of the Vauxhall Station, which is immediately to be commenced. For the purpose of doubling the line more than 400 houses and business premises have had to be purchased. The completion of the work will give eight lines of metals between the two stations, four of these being in connexion with the main line, and four on the Windsor line. The new station will be considerably more than double the area of that which it replaces, being upwards of 1,000 ft. in length and about 200 ft. in width, thus occupying an area of something like four acres. There will be several central and side platforms for both the up and down traffic, each platform being about 800 ft. long. There will be spacious booking-halls, with first and second class waiting and refreshment rooms in connexion with both lines, together with parcel and telegraph offices, and station-master's and a full suite of other offices. It is expected that when the new station is completed and opened there will be a considerable diversion of traffic from Waterloo, passengers from the West End making use of the new station by arriving at it by way of Vauxhall Bridge. In order to accommodate this traffic, one feature of the new station will be the construction of carriage-ways on each side of the station. These carriage-ways will be reached by inclines from the street level. With the exception of the principal terminus at Waterloo, and Portsmouth, Southampton, and other main termini, the station will be one of the largest on the company's system. The estimated cost of the station is between 35,000*l.* and 40,000*l.*

Water Companies and Plumbers.—The Directors of the New River Company have issued a circular in which they inform all applicants who desire to have their names placed on the list of recommended plumbers printed on the back of the notices served by the Company that it will be necessary for them to obtain certificates from the Plumbers' Company that they are efficient workmen, and registered by that Company. This seems to be the first action of the kind taken by the London water companies.—*Morning Post.*

Competition: Lothersdale Schools.—The recent competition for the Lothersdale Schools, for the Carleton School Board, Skipton, Yorks, has, we are informed, resulted in the design sent in under the joint names of Messrs. Frank Brown & John Shewell Corder, of Ipswich, being placed first.

PRICES CURRENT OF MATERIALS.

TIMBER.	£.	s.	d.	£.	s.	d.
Greenheart, B.G.....ton	6	10	0	7	10	0
Teak, E.I.....load	9	0	0	14	0	0
Sequoia, U.S.....foot cube	0	2	3	0	3	0
Ash, Canada.....load	3	10	0	5	0	0
Birch ,, ...	3	10	0	6	0	0
Elm ,, ...	4	0	0	5	0	0
Fir, Dantsic, &c.	2	0	0	4	0	0
Oak ,, ...	2	0	0	4	10	0
Canada	5	10	0	7	0	0
Pine, Canada red	3	5	0	4	0	0
,, yellow	3	10	0	5	10	0
Lath, Dantsic.....fathom	4	10	0	5	10	0
St. Petersburg.....	5	0	0	6	10	0
Wainscot, Riga, &c.....log	2	15	0	4	5	0
,, Odessa, crown.....	2	15	0	3	5	0
Deals, Finland, 2nd and 1st...std.100	9	0	0	10	0	0
,, ,, 4th and 3rd.....	7	0	0	8	10	0
Riga	7	0	0	8	0	0
St. Petersburg, 1st yellow	10	0	0	15	0	0
,, 2nd ,, ...	9	0	0	10	0	0
,, white	8	0	0	10	10	0
Swedish	7	10	0	16	0	0
White Sea	8	10	0	17	0	0
Canada, Pine, 1st	16	0	0	26	10	0
,, ,, 2nd	11	0	0	17	10	0
,, ,, 3rd, &c.	7	10	0	10	10	0
,, Spruce, 1st	9	10	0	10	10	0
,, ,, 3rd and 2nd	7	0	0	8	10	0
New Brunswick, &c.	6	15	0	8	15	0
Battens, all kinds	5	10	0	12	0	0
Flooring Boards, sq., 1 in., prepared, First	0	11	0	0	14	6
Second	0	8	0	0	10	9
Other qualities	0	5	6	0	7	9
Cedar, Cuba.....foot	0	0	3½	0	0	4½
Honduras, &c.....	0	0	3½	0	0	4½
Australian	0	0	3	0	0	3½
Mahogany, Cuba	0	0	4½	0	0	5½
St. Domingo, cargo average	0	0	4½	0	0	5½
Mexican ,, ...	0	0	4½	0	0	4½
Mahogany, Tobasco, cargo average.	0	0	4½	0	0	5½
Honduras ,, ...	0	0	4½	0	0	5½
Box, Turkey .....ton	5	0	0	12	0	0
Rose, Rio .....ton	12	0	0	19	0	0
Bahia	12	0	0	18	0	0
Satin, St. Domingo .....foot	0	0	6	0	1	0
Porto Rico	0	0	9	0	1	3
Walnut, Italian .....foot	0	0	4½	0	0	6½

METALS.	£.	s.	d.	£.	s.	d.
IRON—Bar, Welsh, in London...ton	4	17	6	5	0	0
,, ,, at works in Wales ...	4	15	0	5	0	0
,, Staffordshire, in London ...	5	15	0	7	0	0
COPPER—						
British, cake and ingot..... ton	79	0	0	79	10	0
Best selected	79	10	0	0	0	0
Sheets, strong	83	0	0	85	0	0
Chili, bars	77	15	0	0	0	0
YELLOW METAL.....lb.	0	0	7¼	0	0	7¾
LEAD—						
Pig, Spanish .....ton	13	0	0	0	0	0
English, common brands	13	5	0	0	0	0
Sheet, English.....	14	10	0	0	0	0
SPELTER—						
Silesian, special .....ton	18	7	6	0	0	0
Ordinary brands.....	18	5	0	0	0	0
TIN—						
Straits.....ton	97	0	0	0	0	0

METALS (*continued*).	£.	s.	d.	£.	s.	d.
TIN (*cont.*)—						
Australian	97	0	0	0	0	0
English Ingots.....	100	0	0	0	0	0
ZINC—English sheet .....ton	21	0	0	22	0	0
OILS.						
Linseed .....ton	18	2	6	18	7	6
Cocoanut, Cochin	28	10	0	30	0	0
Ceylon	27	5	0	0	0	0
Palm, Lagos	28	10	0	0	0	0
Rapeseed, English pale	32	0	0	0	0	0
,, brown	30	10	0	0	0	0
Cottonseed, refined	26	0	0	0	0	0
Tallow and Oleine	19	0	0	45	0	0
Lubricating, U.S.	5	0	0	6	0	0
,, refined	7	0	0	12	0	0
TAR—Stockholm .....barrel	1	2	0	1	2	6
Archangel	0	13	0	0	0	0

COMPETITIONS, CONTRACTS, & PUBLIC APPOINTMENTS.

Epitome of Advertisements in this Number.

COMPETITION.

Nature of Work.	By whom Required.	Premium.	Designs to be delivered.	Page.
Alteration to Chapel, Huddersfield.....	The Committee.....	Not Stated.....	Not stated	xi.

CONTRACTS.

Nature of Work, or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page.
Paving Works.....	Wandsworth Bd. of Wks	*Official*.....	Jan. 29th	xv.
Drainage and Sewer Work	Chelsea Vestry.....	do.	do.	xv.
Waterworks	Mansfield U.R S.A.....	Herbert Walker	Jan. 30th	xv.
Road Materials	Bexley Local Board ...	E. R. Boulter	do.	xv.
Alterations and Additions to Workhouse	Hackney Union	W. Barnett	do.	xiii.
Works and Materials	Chelsea Vestry.....	G. R. Strachan.....	Jan. 31st	xv.
Furnace, with Boiler, Engine, and Machinery	Hornsey Local Board...	T. de Courcy Meade.....	Feb. 4th	xv.
Granite, Kerb, York Paving, & Granite Cubes	Paddington Vestry	*Official*	do.	xi.
Granite for Repairing Roads	do.	do.	do.	xi.
New Streets Works	St. Giles (Camberwell) Vestry	do.	do.	xiii.
Storm Water Drains, Main Sewers, &c.....	Trustees, Rolleston Estate	Maxwell & Tuke	do.	xiii.
Galvanised Iron Dust Pails	Rotherhithe Vestry.....	*Official*	Feb. 5th	xi.
Stoneware Pipe Sewers	Tottenham Local Board	J. E. Worth	do.	xi.
Cast Iron Water Mains	do.	do.	do.	xi.
Laundry Buildings, &c.	Toxteth Park Local Bd.	J. Price	do.	xii.
New Sewer, &c., College Hill	Com. of Sewers	*Official*.....	do.	xiii.
Horses, Carts, &c. Royal Parks.....	Com. of H.M. Works...	do.	Feb. 6th	ii.
Concrete Paving.....	Gt. Yarmouth U.S.A.	J. W. Cockrill	Feb. 7th	ii.
New Lighthouse at Southwold	Corpor of Trinity House	do.	do.	xv.
Works and Materials	St. Pancras Vestry	W. B. Scott	Feb. 11th	xiii.
Hydrants	Bournemouth Com.....	G. R. Andrews.....	do.	xiii.
Dredging Works.....	Southampton Harb. Bd.	*Official*	do.	xi.
Works, Materials, &c.....	Vestry, S. My. Abbotts, Kensington.	*Official*	Feb. 12th	xi.
Alteration, &c. Entrance Lodge of Cemetery .	St. Pancras Burial Brd.	J. T. Lee	do.	xiii.
Drainage Works	Tadcaster, R.S.A. ...	Brundell, Simmons & Co.	Feb. 16th	xiii.
Additional Subsiding Tanks, Carriers, &c.....	Hanwell Local Board ...	E. J. W. Herbert	Feb. 18th	xv.
Pumps and Fittings	Tottenham Local Brd.	J. E Worth	Feb. 19th	xi.
Works, Repairs, and Supply of Building Mat.	War Department.....	*Official*	Feb. 21st	ii.
Works and Materials (S. Eastern R.E. Dist.)	do.	do.	Feb. 27th	xi.
Works and Materials (York R.E. Sub-Dist.)	do.	do.	do.	xi.
Works and Matrls. (Brighton R.E. Sub-Dist.)	do.	do.	Mar. 4th	xi.
Works, Repairs, and Supply of Building Mat.	do.	do.	do.	ii.
Footway Tunnel across and under R. Thames	Met. Board of Works...	do.	Mar. 15th	xi.
Supply of Mats	School Bd. for London	*Official*	Not stated.	xi.
Wrought Iron Scraper Gratings, &c. &c.	do.	do.	do.	xi.
Chemical Cupboards, Tray do. Tablets & Steps	do	do.	do.	xi.
Excavating and Sifting Sand and Gravel	W. H. Gibbs & Co.....	.....	do.	xv.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.	Page.
Head Mechanical Draughtsman	Government of India...	240 Rupees per month	Feb. 4th	xix.
Engineer Students and Students in Naval Con.	C. S. Commission	Not stated.....	March 15th	xix.

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *Noon on Thursdays.*]

ASHTEAD (Surrey).—For the erection of two detached houses, on the Greville Park Estate, for Miss Coates. Mr. Lionel Littlewood, architect, 9, Great James-street:—

Skilton, Leatherhead (accepted)..... £1,300 0 0

ASHTEAD (Surrey).—For the erection of Stables, &c., to "Greville," for Miss Coates. Mr. Lionel Littlewood, architect, 9, Great James-street, Bedford-row, W.C.:—

Haseman, Ashtead £298 10 0
Skilton, Letherhead (accepted) 237 0 0

BRIGHTON.—For heating the new Board Schools, Park-street, Brighton. Mr. Thomas Simpson, architect, Brighton:—

John Grundy £295 0 0

DATCHET.—For the erection of a bungalow, for Mr. W. C. Searle. Mr. Ed. A. Ram, architect, Gt. Queen-street, Westminster:—

Hussell, London £1,097 0 0
Watson, Ascot 908 0 0
Ford & Kirrage, Upper Holloway, N. 820 0 0

DATCHET.—For erecting châlet residence for Mr. F. Baxter. Mr. Thos. W. Willis, architect, 34, Ely-place:—

Stone & Humphreys, London £1,087 0 0
Willis, Datchet 988 0 0
Hollis, Windsor 884 0 0
Ford & Kirrage, Upper Holloway, N. 750 0 0
Atkins, Slough 730 0 0

DATCHET.—For the erection of gardener's cottage, for Mr. F. Baxter:—

Ford & Kirrage (accepted) £189 0 0

(Vineries, span-roof houses, and walling at schedule of prices).

EDMONTON.—For erecting a new south aisle and restoring the top of tower stair-turret, and rebuilding parapets of tower flat, at the parish church, Edmonton, Middlesex, for the Vicar and the Building Committee. Mr. W. Gillbee Scott, architect:—

	New South Aisle, &c.	Restoring Tower Turret, &c.	Total.
W. R. Gardener, Waltham Abbey.....	£2,450 ...	£320 ...	£2,770
Cornish & Gaymer, North Walsham	1,895 ...	215 ...	2,110
J. Wheeler, Wantage.	1,758 ...	285 ...	2,043
J. H. Mollett, Hoxton.	1,632 ...	161 ...	1,793
Goddard & Son, Eton.	1,497 ...	200 ...	1,697
S. Parmenter, Braintree.....	1,537 ...	144 ...	1,681

GUILDFORD.—For public baths for the Guildford Urban Sanitary Authority. Mr. Henry Peak, Borough Surveyor, architect:—

J. Gammon & Son, Petersfield.....	£3,718	0	0
Mitchell Bros., Shalford.....	3,549	0	0
Robert Pink, Milford	3,432	0	0
T. E. Downes, Guildford	3,345	10	0
Robert Smith, Guildford	3,325	0	0
J. McWilliam & Son, Bournemouth	3,290	0	0
Harvey Brown, Bramley	3,200	0	0
Henry Potter, Lower Clapton.....	3,198	0	0
Robt. Wood. Cobham.....	3,160	0	0
T. H. Kingerlee, Oxford.....	3,147	0	0
Jno. Pillar, Teddington.....	3,125	0	0
Geo. Garnett, Guildford.....	3,100	0	0
Stanley Ellis, Guildford.....	3,088	0	0
Jno. Bottrill & Son, Reading	3,080	0	0
Tompsett & Kingham, Farnham	3,050	0	0
Peter Peters, Horsham	2,900	0	0
Edgar Seaber, Godalming	2,898	0	0
Frank Milton, Witley.....	2,897	0	0
Martin, Wells, & Co., Aldershot.....	2,880	0	0
W. Smith & Sons, Guildford*	2,878	0	0

* Accepted.

LONDON.—For rebuilding the London and South-Western Bank, 180, Whitechapel-road, E. Mr. Edward Gabriel, architect. Quantities by Mr. G. R. Tasker:—

Howlett	£3,920	0	0
Wood	3,883	0	0
Holland	3,877	0	0
Nightingale	3,764	0	0
Kynoch	3,740	0	0
Smith & Son	3,589	0	0
Atherton & Latta	3,493	0	0
J. O. Richardson	3,407	0	0
Shepherd (accepted)	3,360	0	0

LONDON.—For new stables, cart-house, and men's quarters, at James-street, Lower Marsh, Lambeth, for Mr. George Vickers. Mr Alfred Burnell Burnell, architect. Quantities by Mr. H. T. A. Chidgey:—

Read	£1,579	0	0
Wall	1,579	0	0
F. & F. J. Wood	1,577	0	0
Jerrard	1,567	0	0
Langmead & Way	1,547	0	0
W. & F. Croaker	1,532	0	0
Nightingale	1,520	0	0
Potterton (accepted)	1,489	5	2

LONDON.—For rebuilding the "Rope and Anchor" public-house, Acre-lane, Brixton, for Mr. J. Baldwin. Mr. Wm Eve, architect, 10, Union-court, Old Broad-street, E.C.:—

Jackson & Todd (too late)	£1,849	0	0
Godfrey & Son	1,826	0	0
Salt	1,810	0	0
Holland	1,800	0	0
Burman	1,759	0	0
Holliday & Greenwood	1,749	0	0
Shepherd	1,740	0	0
Harris & Wardrop	1,740	0	0
Downs	1,679	0	0
Chappell, 149, Lupus-street, S.W.*	1,665	0	0
Dabbs (too late)	1,651	0	0

* Accepted.

LONDON.—For extending fodder store, at 128, Goswell-road, for Messrs. Carter, Paterson, & Co., Limited. Mr. Wm. Eve, architect, 10, Union-court, Old Broad-street, E.C.:—

Jackson & Todd	£849	0	0
Harris & Wardrop	820	0	0
Chessum	800	0	0
Holland (too late)	796	0	0
Godfrey & Son	774	0	0
Dabbs	728	0	0
Higgs, F. & H. F., Station Works, Loughborough Junction, S.E*	725	0	0

* Accepted.

LONDON.—For alterations to the Birkbeck Schools, Sumner-road, Camberwell, for the purposes of a Temporary Workhouse, &c., for the Guardians of the Poor of the Parish of Camberwell. Mr. Robt. P. Whellock, architect, 45, Finsbury-pavement, E.C.:—

Balaam Bros.	£1,325	0	0
H. L. Holloway	1,200	0	0
H. Pinnock	1,195	0	0
Geo. Parker	1,170	0	0
W. Smith	1,165	0	0
John Allen & Sons (accepted)	1,137	0	0

LONDON.—For new stables in rear of the "Nag's Head," Hackney-road, for Mr. C. Deakin. Messrs. Saville & Martin, architects, 86 and 87, Strand, W.C. Quantities supplied:—

Yardley & Sons	£730	0	0
S. T. Harvey	716	0	0
Oldrey	699	0	0
Spencer & Co.	685	0	0
Mocock	665	0	0
Walker	660	0	0
W. Royle	636	0	0
Young & Lonsdale	630	0	0
S. Goodall	592	0	0

LONDON.—For shop-fronts, fittings, and decorations to shops and houses; 3 to 9, Euston-road:—
Ford & Kirrage, Upper Holloway (accepted at per schedule of prices).

LONDON.—For alterations and decorations to "Ye Two Chairmen" publichouse, Warwick-street, Charing-cross, for Mr. Collins. Mr. T. Marcus Houghton, 10, John-street, Adelphi, W.C., architect:—

Drew & Cadman	£195	0	0
Puzey & Lumley	185	0	0
C. W. Bovis & Co.	183	0	0
J. Woodman, 2, Northop-street, Park-street, W. (accepted)	177	10	0

LONDON.—For erecting residential flats and shops, Upper-street, Islington. Mr. E. C. Beaumont, architect, Imperial-buildings, Ludgate-circus, E.C.:—
J. H. Mollett, Crown Wharf, Poole-street, Hoxton, N. £8,274 0 0

LONDON.—For the erection of new premises on the "Cantlowes Prebend Estate," High-street, Camden Town, for Mr. Messrs. Forbes & Son. Mr. Lionel Littlewood, architect, 9, Great James-street, Bedford-row, W.C.:—
Geo. R. Rowe, Westminster £1,300 0 0
* Accepted.

LONDON.—For heating by warm air St. Paul's Church, Haggerston, E. Mr. A. W. Blomfield, A.R.A., architect:—
John Grundy £140 0 0

LUTON.—For new stone staircase and other works at Messrs. Beecroft & Sons' premises, George-street and Bute-street, Luton. Mr. W. J. Pearson, architect:—

Ford	£200	0	0
Pryer	173	0	0
Neville Bros.	166	0	0
Smart (accepted)	160	0	0

MOTTINGHAM (Kent).—For repairs and decorations at "The Woodlands," Mottingham, for the Trustees of the late Mr. F. A. Schroeter:—

Gates, Lee	£413	7	0
Lowe, Chislehurst	375	0	0
Wood, Chislehurst	265	0	0
Mitchell, Eltham (accepted)	241	7	0

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PUBLISHER'S NOTICES.

Registered Telegraphic Address, "THE BUILDER, LONDON."

THE INDEX and TITLE-PAGE for Volume LV. (July to Dec. 1888) were given as a Supplement with the Number for Jan. 12 last.

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DOUGLAS FOURDRINIER, Publisher,
Addressed to No. 46, Catherine-street, W.C.

Advertisements for the current week's issue must reach the Office before THREE o'clock p.m. on THURSDAY, and for the Front Page by the same Hour on WEDNESDAY.

SPECIAL.—ALTERATIONS IN STANDING ADVERTISEMENTS or ORDERS TO DISCONTINUE same must reach the Office before TEN o'clock on WEDNESDAY mornings.

The Publisher cannot be responsible for DRAWINGS, TESTIMONIALS, &c. left at the Office in reply to Advertisements, and strongly recommends that of the latter COPIES ONLY should be sent.

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Now ready.
READING CASES, { NINEPENCE EACH. By post (carefully packed), 1s.

TO CORRESPONDENTS.

H. H. B.—H. S. C.—R. M. B.—H. R. L. (we can hardly commence reports of the "smoking concerts" of various architectural bodies throughout the kingdom. No doubt they are very enjoyable to the members, but the reports of them hardly constitute architectural news).—R. G. (your letter is too much of an *ex parte* statement for us to print. Another of the six competitors has informed us that he had no desire or intention to endeavour to upset the award).—T. P. (too late).—A. W. S. (too late).—L. E. (too late this week).—A. E. J. (ditto).

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication.

We are compelled to decline pointing out books and giving addresses.

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news-items) which have been duplicated for other journals, are NOT DESIRED.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; all communications relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

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CORSHAM DOWN. | FARLEIGH DOWN.
BOX GROUND. | COMBE DOWN.
WESTWOOD GROUND. | STOKE GROUND.

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HEAD OFFICES: BATH.

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THE CHELYNCH STONE. The stone from these quarries is known as the "Weather Beds," and is of a very crystalline nature, and undoubtedly one of the most durable stones in England.

THE BRAMBLEDITCH STONE. Is of the same crystalline nature as the Chelynch Stone, but finer in texture, and more suitable for fine moulded work.

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THE OLD HÔTEL DE VILLE, PARIS.

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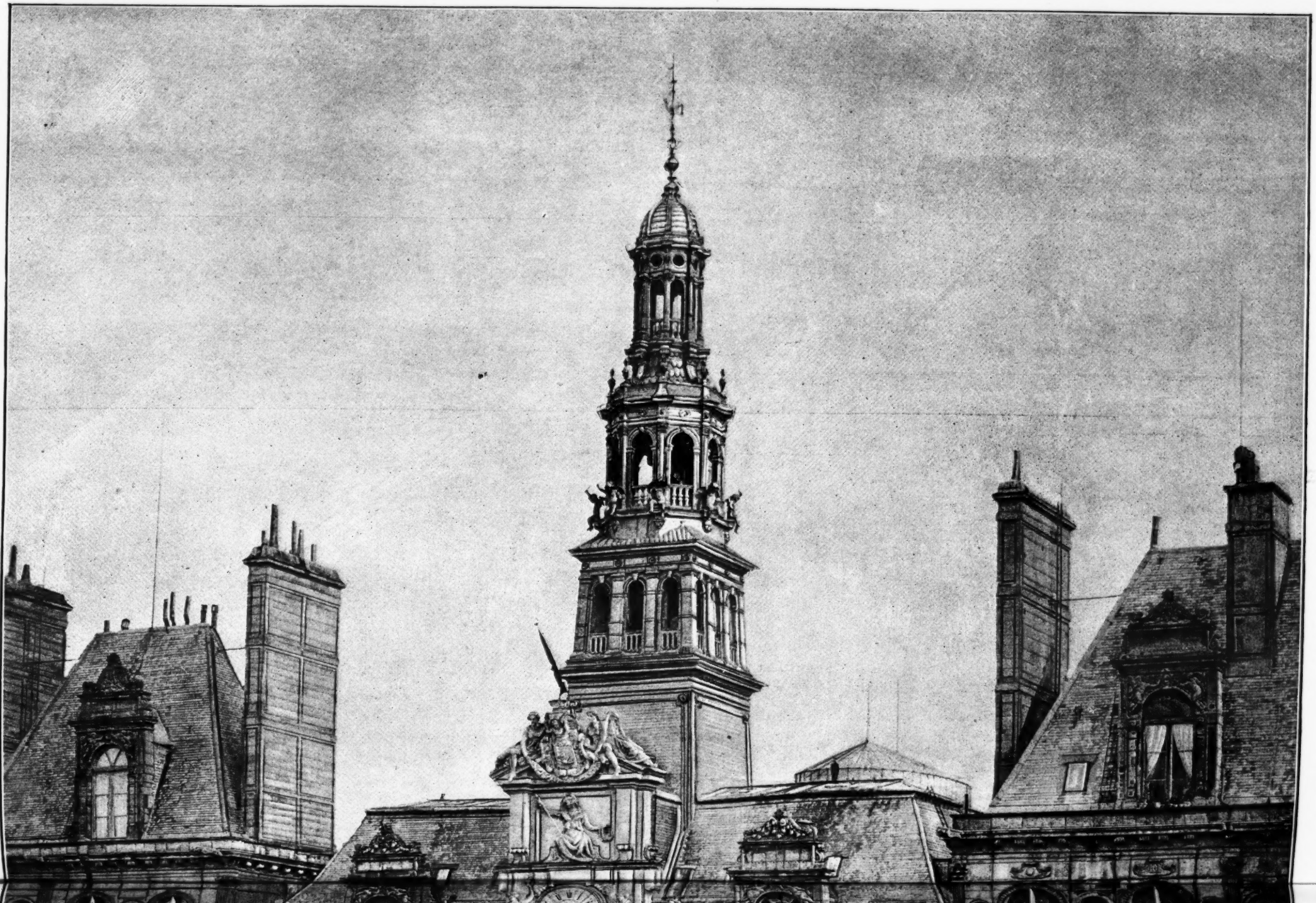
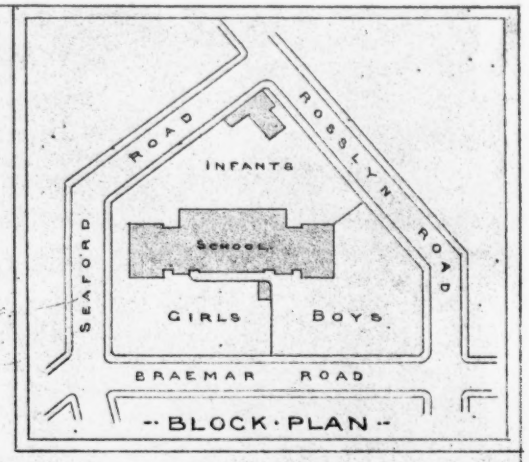


TOTTENHAM SCHOOL BOARD
SEVEN SISTERS ROAD SCHOOL

CHARLES BELL.. ARCHT.
3 SALTERS HALL COURT
CANNON ST E.C.



-- BLOCK · PLAN --

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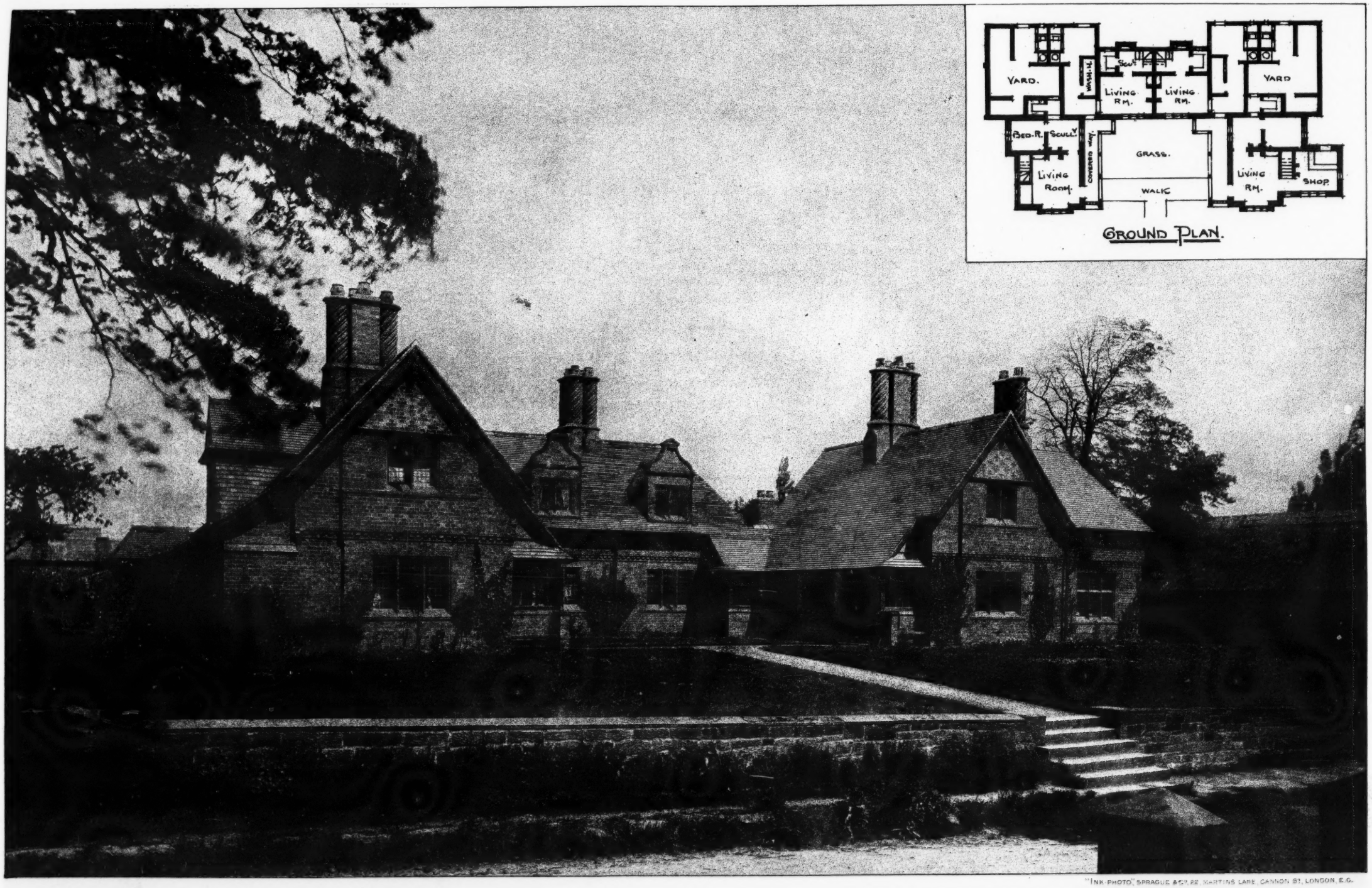

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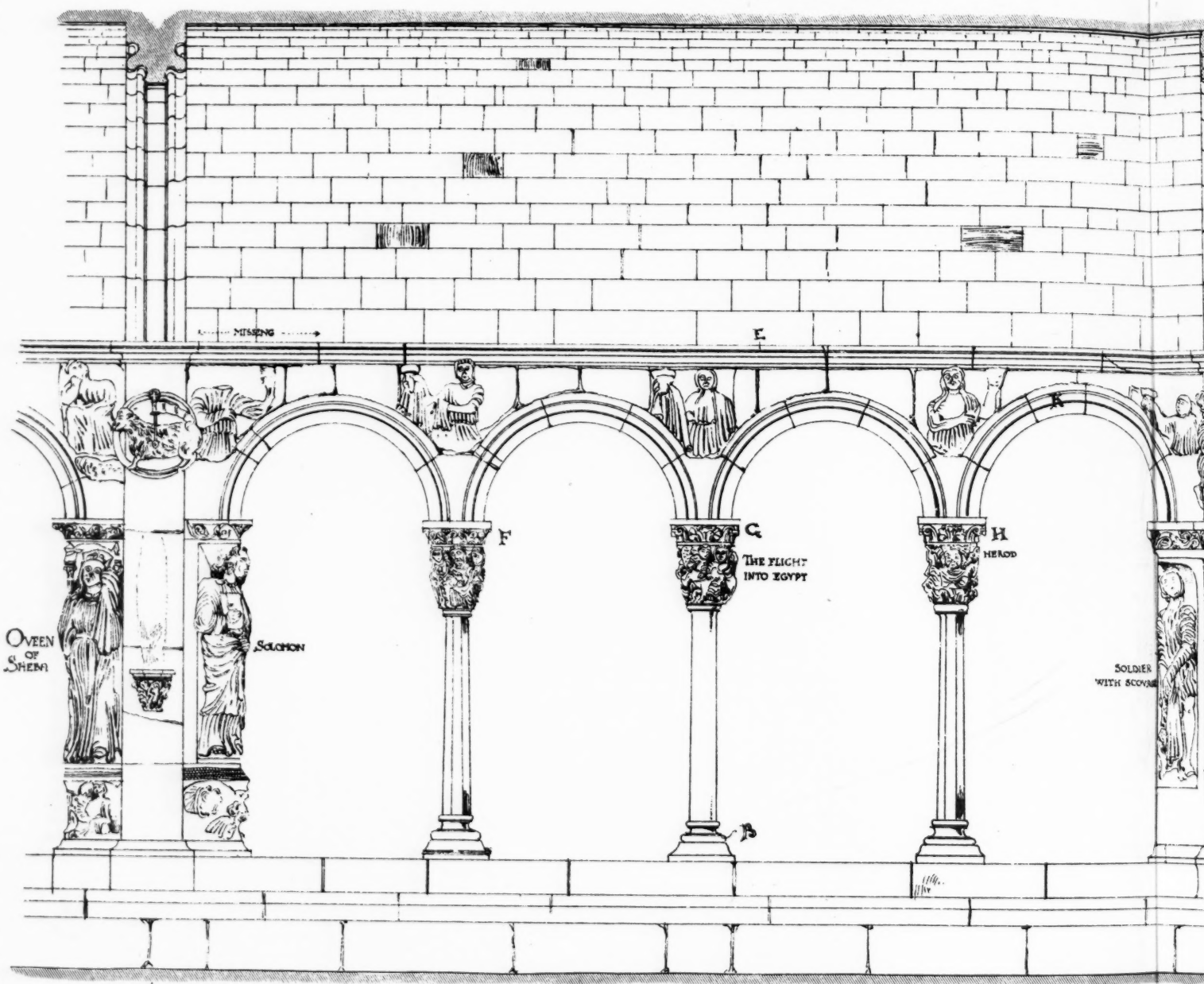
COTTAGES AT ECCLESTON, EATON ESTATE.—MESSRS. DOUGLAS & FORDHAM, ARCHITECTS.

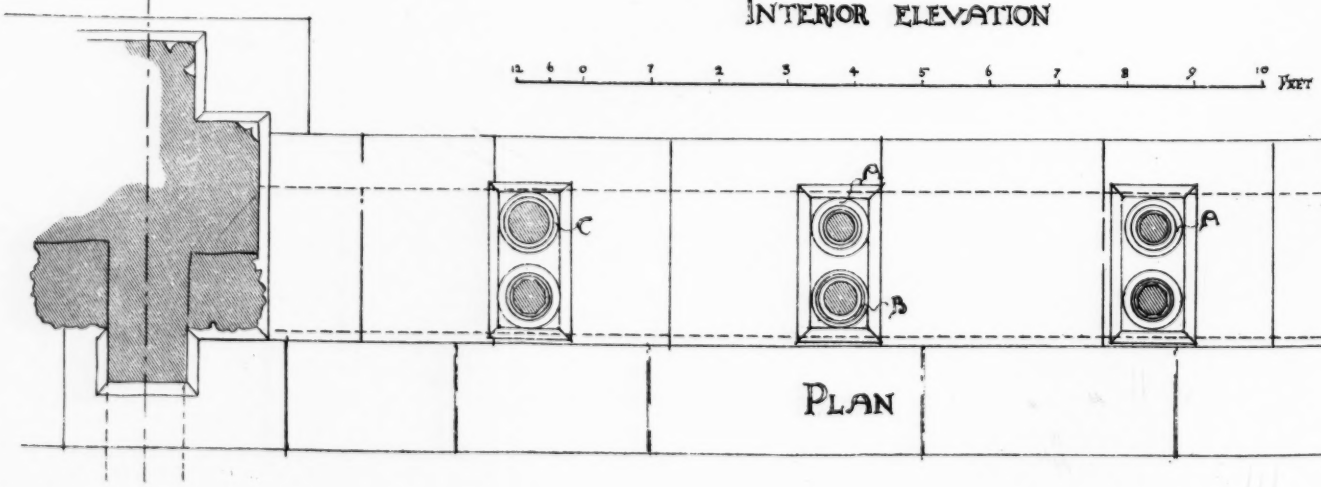
THE CLOISTERS-ST. TROPHIME-ARLES-

ONE BAY OF THE EAST WALK-

DETAIL OF ABACI



INTERIOR ELEVATION



PLAN

SEAT

OUTLET FOR WATER

THIS ROOF WAS RAISED AND MADE INTO A WALK WHEN THE SOUTH AND WEST WALKS WERE REBUILT. THE FORMER ROOF FELL TO THE LEVEL OF THE CHANNEL

CHANNEL

J

K

D

JUDAS

EXTERIOR ELEVATION

SECTION

OTHER BASES SIMILAR TO THIS THOUGH VARYING IN SIZE

A

B

C

D

E

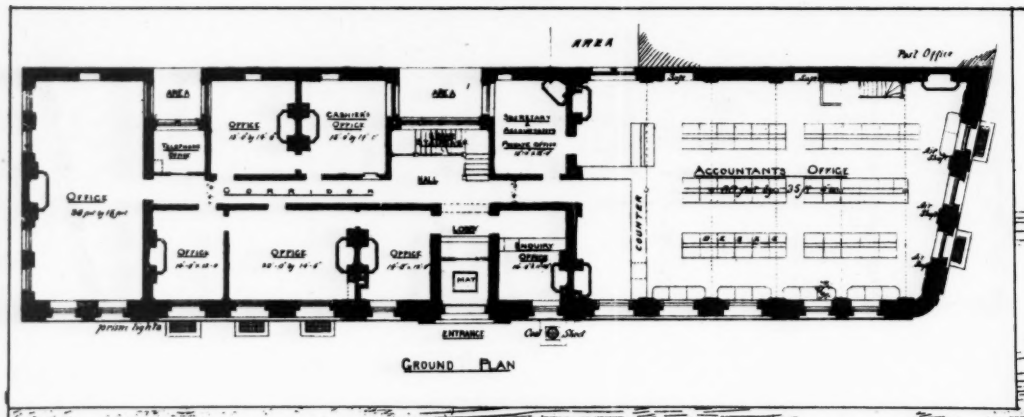
K

SCALE FOR DETAILS

0 1 2 3 4 5 6 7 8 9 10 11 12 INCHES

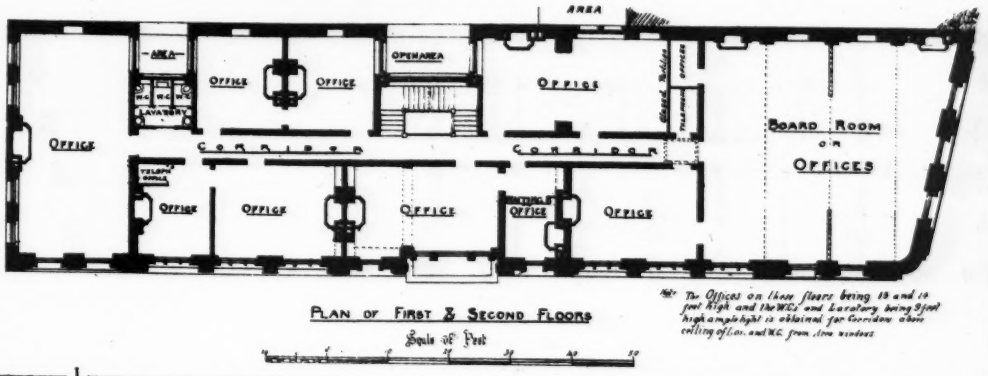
PLOTTED TO SCALE ON THE SPOT - AUG. 1887 AND FINISHED IN INK AUG. 1888 BY ARTHUR NEEDHAM WILSON.

PHOTO-LITHO, SPRAGUE & Co 22, MARTINS LANE CANNON ST, LONDON, E.C.



GROUND PLAN

ACCEPTED DESIGN FOR NEW OFFICES, CARDIFF.—M



PLAN OF FIRST & SECOND FLOORS

Scale of Feet

*** The Offices on these floors being 18 and 19 feet high, and the W.C.s and Lavatory being 9 feet high ample light is obtained for Corridors above ceiling of Lav. and W.C. from three windows

PHOTO-LITHO, SPRAGUE & Co 22, MARTINS LANE, CANNON ST, LONDON, E.C

CAIFF.—MR. E. H. BRUTON, A.R.I.B.A., ARCHITECT.